CONSERVATION LAW FOUNDATION

July 28, 2006

Dr. Rodney E. Cluck
Project Manager
Minerals Management Service
381 Elden Street, Mail Stop 4042
Herndon, VA 20164

Re: Comments on the Notice of Intent to Prepare an EIS on the Cape Wind Project

Dear Dr. Cluck:

The Conservation Law Foundation (CLF) is pleased to submit these comments in response to the May 30, 2006 notice in the Federal Register (71 FR 30693) on the Mineral Management Service (MMS) Notice of Intent (NOI) to Prepare an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA). The NOI involves the proposal by Cape Wind Associates LLC (Cape Wind) to construct a utility-scale wind turbine installation consisting of 130 wind turbines and associated infrastructure in Nantucket Sound ("Cape Wind Project" or the "Project").

The goal of these comments is to suggest ways in which MMS can build upon the analysis to date and focus its time and resources on issues that have not yet been fully addressed. The NEPA review of the Cape Wind Project is somewhat unusual, in that a detailed Draft EIS for the project has already been prepared by the United States Army Corps of Engineers (ACOE). ACOE was the lead agency for purposes of NEPA review prior to passage of the Energy Policy Act of 2005 (Pub. L. 109-58). The Energy Policy Act authorized the Secretary of Interior, through MMS, to oversee a leasing program for renewable energy projects on the Outer Continental Shelf such as the Cape Wind Project. As a result, MMS became the lead federal agency after the project had already been in NEPA review for almost five years. Thus, MMS should make good use of the extensive data that already has been collected in connection with its review of this pioneering project.

Unfortunately, the history of the NEPA review of the Project is marked with attempts by project opponents to create undue delays in the review and approval process. In accordance with the intent of the Energy Policy Act of 2005, CLF urges MMS to move forward expeditiously in preparing the Draft EIS for this long-pending project. MMS should incorporate the extensive analysis already undertaken by the ACOE, and should update the earlier analysis by focusing on MMS' more expansive role (than that of the ACOE) and on the particular areas where data gaps remain, as discussed more fully below.

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I. CLF views the Cape Wind Project within the context of an urgent need for development of clean renewable energy generation to address the climate change crisis.

CLF is a public interest advocacy organization that works to solve the environmental problems that threaten the people, natural resources and communities of New England. Founded in 1966, CLF is a nonprofit, member-supported organization. CLF promotes clean, renewable and efficient energy production in New England and has an unparalleled record of advocacy on behalf of the region's marine environment and the scenic qualities of Cape Cod and the Islands. As part of its 40-year legacy in this region, CLF has prevented drilling for oil and gas on Georges Bank, led the legal effort to clean-up Boston Harbor and other major coastal estuaries, fought to reduce damaging off-road vehicle use on the beaches and dunes of the Cape Cod National Seashore and successfully advanced legal strategies to restore groundfish to the Gulf of Maine and southern New England waters.[1]

The contextual backdrop to CLF's review of the Cape Wind Project is the imperative need to evaluate this project in the larger context of the global crisis of climate change, a context that includes overarching environmental, public health, energy policy, legal and regulatory considerations that are not present with most other development projects. To the degree that New Englanders fail to understand and act effectively on the crisis presented by climate change, the regional ecosystem that New Englanders have experienced throughout human history could be irrevocably changed. To pretend that any of these contextual considerations do not exist would be an abdication of the responsibility the living generations have as stewards of this regional resource.

It is especially important for New England to address the forces that are driving climate change, because New England is both a major source of the climate change problem *and* likely to be affected dramatically by it. According to the National Environmental Trust, Massachusetts alone emits more greenhouse gases than 72 developing countries with a combined population of more than 300 million people.[2] Between 2005 and 2014, peak New England summer and winter season energy demand is projected to grow at an annual rate of 1.52%.[3]

To meet the challenge of reducing fossil fuel emissions and the associated threats to public health and the global climate, New England must immediately embrace the process of bringing sources of clean energy into the region. The Cape Wind Project provides a chance to begin this process, providing the region's first major source of wind energy-based power production and the opportunity to obtain experience that will allow the region to more rapidly build a full portfolio of sorely needed clean energy facilities. The Cape Wind Project promises to be both a rich source of clean energy and a source of essential new information for guiding future projects.

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[1] *Conservation Law Foundation v. Clark*, 594 F. Supp. 1373 (D.Mass. 1984); *Conservation Law Foundation v. Secretary of the Interior*, 790 F.2d 965 (1st Cir. 1986); *Conservation Law Foundation v. Clark*, 590 F. Supp. 1467 (D.Mass 1984); *Conservation Law Foundation v. Metropolitan District Commission*, 757 F. Supp. 121 (D.Mass 1991); *Conservation Law Foundation v. Evans*, 209 F. Supp.2d 1 (D.D.C. 2001); *Conservation Law Foundation v. Evans*, 203 F.Supp.2d 27 (D.D.C. 2002); *Conservation Law Foundation v. Evans*, 211 F. Supp.2d 55 (D.D.C. 2002).

[2] National Environmental Trust, *First in Emissions, Behind in Solutions*, 2002, p. 35.

[3] ISO-New England 2005 Regional System Plan, p. 5, available at http://www.iso-ne.com/trans/rsp/2005/05rsp.pdf (last checked 07/05/06).

II. The new Draft EIS for the Project should incorporate the extensive studies conducted by the ACOE, and should not require elaborate new alternatives analyses.

The ACOE's Draft EIS included a detailed alternatives analysis that went well beyond the minimum requirements of the regulations set forth by the Council on Environmental Quality (CEQ) at 40 CFR 1500. The ACOE's Draft EIS included analysis of both coastal and inland fossil fuel plants, various renewable technologies, and numerous upland and offshore wind farm sites throughout New England. The ACOE's Draft EIS took a liberal approach to inclusion of alternatives, even in some cases when it was clear that an alternative did not pass the initial screening criteria developed by ACOE in consultation with the cooperating agencies (DEIS Section 3.4.2, p 3-29). The ACOE's Draft EIS also included a more exhaustive analysis focused on three alternative locations within Nantucket Sound.

The ACOE's alternatives analysis for the Project in the original Draft EIS was the product of years of study. It benefited from input from numerous federal, state and local agencies, as well as numerous environmental organizations and members of the general public.

It is within this context that the alternatives proposed by MMS in the NOI should be evaluated. When deciding on the scope of alternatives, MMS should bear in mind the CEQ requirements that the lead agency "[S]hall…eliminate from detailed study the issues…which have been covered by prior environmental review" (40 CFR 1501.7(a)(3)) and that "[t]here shall be only brief discussion of other than significant issues" (40 CFR 1502.2(b)).

CLF is encouraged that MMS has set an approximate date for publication of its Draft EIS, as allowed by 40 CFR 1501.8. CLF urges MMS to strive to adhere to this timeline as it proceeds with its review, and not allow project opponents to force further undue delays into the already lengthy review process. To most efficiently and effectively prepare a new Draft EIS for the Project, CLF has the following recommendations concerning the alternatives analysis:

- Proposed Action: The EIS must include a description of the proposed action (40 CFR 1502.14). The Draft EIS should incorporate the reams of data and analysis that have been generated over the past five years concerning the proposed action. The "Proposed Action" alternative in the Draft EIS should serve to update reviewers on the new issues presented by the MMS permitting and licensing role and minor changes to the Project that have been made since the ACOE's Draft EIS was completed, as well as to fill in the "data gaps" left by the ACOE Draft EIS (outlined below and detailed in the attached CLF comment letter to ACOE dated February 23, 2005).

- Phased Installations and Operations: This alternative was not considered in detail in the ACOE Draft EIS. However, the economic realities of ocean construction may make a phased approach to construction infeasible. MMS should focus on the economic feasibility issue as a threshold matter, to determine if phased installation is a "reasonable" alternative for purposes of NEPA review.[4] If further analysis is warranted, the Draft EIS

[4] "The concept of alternatives must be bounded by some notion of feasibility." *Vermont Yankee Power Corp. v. Natural Resources Defense Council*, 435 US 519, 551 (1978).

should explore both on the positive and negative aspects of phased installation and operation.

- South of Tuckernuck Alternative Location: This alternative appears to be either immediately adjacent to, or partially overlapping, the "South of Tuckernuck Island" alternative (sometimes referred to as the "South of Martha's Vineyard" alternative) that was analyzed in the ACOE's Draft EIS for the Project. The ACOE's Draft EIS reasonably concluded that deepwater alternatives are categorically technologically infeasible. Therefore, further analysis of a deepwater alternative location would not serve to advance the understanding of project impacts or reasonable alternatives. In addition, this alternative has been exhaustively studied, and does not appear to merit more extensive analysis in the new Draft EIS. Rather, the analysis of this alternative should appropriately be limited to explaining adequately the general technological obstacles to deepwater wind power projects (see CLF comment on ACOE Draft EIS, p. 14).

- Nantucket Shoals Alternative Location: This alternative is studied in the initial screening in the ACOE Draft EIS, and reasonably found to be infeasible. Further evaluation of this alternative does not appear to be warranted.

- Monomoy Shoals: This new alternative appears to raise greater concerns with potential wildlife impacts than the Proposed Action. It is not clear that studying this alternative in detail will add value to the review process, or even why this alternative is proposed for consideration. Extensive study of this new alternative does not appear to be warranted.

- East of Nauset Beach: This is a new alternative that was not explored in the ACOE's Draft EIS for the Project. Given the ACOE's reasonable conclusion in its Draft EIS that deepwater alternatives are categorically technologically infeasible, analysis of a new deepwater alternative location East of Nauset Beach would not serve to advance the understanding of project impacts or reasonable alternatives. In addition, the "East of Nauset" deepwater alternative raises site-specific concerns with potential impacts to the Cape Cod National Seashore, issues with the electrical interconnection, and possible impacts to shipping channels. In addition, the Massachusetts Ocean Sanctuaries Act forbids placement of any structures on the seabed (such as electrical cables) in state waters off the National Seashore, rendering any electrical connection to the grid from this location extremely problematic if not impossible. CLF recommends removing this alternative from any further consideration, and limiting discussion of deepwater alternatives generally to the additional data requested in the context of the South of Tuckernuck alternative.

- No action: MMS must include this alterative (40 CFR 1502.14). As with the Proposed Action, CLF recommends building on the extensive data already available. CLF further recommends that discussion of the No Action alternative be used to correct one of the few shortcomings of the ACOE Draft EIS, by placing the project fully in the context of pressing public policy concerns favoring development of clean renewable energy. Discussion of the No Action alternative also presents an opportunity to discuss the air

quality benefits of the project, and to explain how those benefits will not be realized under the "No Action" alternative.

- Reduced Build: This alternative is not listed in the bullets provided in the NOI, although the text of the announcement indicates it may be under consideration. Further study of a reduced build alternative does not appear to be warranted. The "combination alternative" presented in the ACOE's Draft EIS already analyzes the impacts of a reduced build footprint in Nantucket Sound. The effects of a true "reduced build" can be easily obtained by setting aside the New Bedford portion of the combination alternative. This alternative will likely prove economically infeasible, in any event. If MMS chooses to study this alternative in any detail, it is imperative that MMS clearly and prominently explore the reduction in associated air quality benefits that any reduced build alternative would have.

- Reconfiguration Alternative: This alternative also appears in the text of the NOI, but not in the bulleted list. The Proposed Action has already been slightly reconfigured due to the change in the federal/state boundary that precipitated a 2005 Notice of Project Change to the Massachusetts Environmental Policy Act (MEPA) Office pursuant to the requirement of the Massachusetts Environmental Policy Act (M.G.L. Ch 30, S. 61-62H). MEPA required that the changes be incorporated into future MEPA analysis of the proponent's preferred alternative (i.e., the Proposed Action under NEPA). The reconfigurations necessitated by the boundary change should be incorporated into the updated analysis of the Proposed Alternative.

Because the ACOE Draft EIS for the Cape Wind Project included such extensive analysis of alternatives, it generated a wealth of detailed information on what types of alternatives are feasible (and which are not) for offshore renewable energy. The ACOE's inclusive approach to alternatives held the Cape Wind Project to an unusually high standard of review. In this context, MMS should not reinvent the alternatives analysis from scratch, not should it expand the analysis undertaken by the ACOE to include every conceivable alternative possible. "Common sense [] teaches us that the 'detailed statement of alternatives' cannot be found wanting simply because the agency failed to include every alternative device and thought conceivable by the mind of man." *Vermont Yankee* at 551. NEPA does not require discussion of "remote and speculative" possibilities, and any alternatives analysis conducted under NEPA "may make reference to studies already made by other agencies…" (*Natural Resources Defense Council v. Morton*, 458 F. 2d 827, 837-38 (DC Cir. 1972)). "[I]nherent in NEPA and its implementing regulations is a 'rule of reason,' which ensures that agencies determine whether and to what extent to prepare an EIS based on the usefulness of any new potential information to the decisionmaking process." *Department of Transportation v. Public Citizen*, 541 US 752, 767 (2004).

Given that MMS' NEPA review of the Cape Wind Project is the very first undertaken by MMS for an offshore wind energy project, it may understandably be viewed as setting the standard for the review of future projects. However, the Cape Wind Project comes to MMS for review in a rather unique posture, having already been subjected to many years of extensive review led by the ACOE (including extensive public comment and review, a completed Draft EIS, and analysis by a range of federal, state and local agencies) before MMS was ever designated to oversee review of offshore wind energy projects like this one. In addition, the Energy Policy Act of 2005 specifically envisions a somewhat different (and therefore non-precedential) approach for projects already well into the review process, such as the Cape

Wind Project, at the time the Act became law. Under these circumstances, MMS should use the new Draft EIS for the Project as an opportunity to fill in any remaining data or analytical gaps left over from the ACOE's NEPA review, and to address the new aspects of the Draft EIS resulting from the Energy Policy Act of 2005 and MMS' new jurisdiction in terms of licensing offshore renewable energy projects. MMS accordingly should incorporate the ACOE's existing analysis of project alternatives into the new Draft EIS, with only modest further analysis as indicated above.

III. The EIS should include relevant information on MMS permitting responsibilities.

The Energy Policy Act of 2005 created a leasing program for offshore renewable energy under the supervision of the Department of the Interior. This law, by standardizing a process for the orderly assignment of leasing rights for renewable projects on the Outer Continental Shelf, cured whatever "regulatory gap" may have existed under a previous permitting regime that did not explicitly create rights in, and regulate, private non-extractive uses of offshore lands for energy development. As such, this new aspect of the regulatory regime (as applied to projects like the Cape Wind Project that are already in an advanced state of review) should be a focal point of the Draft EIS. The Draft EIS should demonstrate that MMS has taken the requisite "hard look" at the impacts of the Cape Wind Project, including the positive impacts expected from the generation of emissions-free electricity made possible by the granting of a lease. MMS should also clarify that a lease to the Project's proponents would not result in exclusion of the general public from the project area, as erroneously claimed by some project opponents.

IV. The Cape Wind Draft EIS review should proceed independently of the ongoing Programmatic EIS Being Prepared by MMS for Offshore Renewable Energy Facilities.

CLF has submitted comments in connection with the Programmatic EIS that MMS is preparing in connection with the development of its new responsibilities for offshore renewable energy permitting. Consistent with the intent of the Energy Policy Act of 2005, the Programmatic EIS and the Cape Wind EIS should proceed independently. In a letter to then Secretary Norton dated November 16, 2005, CLF noted that Sections 388(a)(3) and 388(d) of the Energy Policy Act of 2005 express Congress' desire to move forward without delay the review of offshore renewable energy projects already in the review process at the time of passage of the Act. As explained in detail in CLF's November 2005 letter, keeping the programmatic EIS and the NEPA review of the Cape Wind Project on independent tracks is critical to ensuring that the intent of Congress is implemented.

The Cape Wind Project is at an advanced stage of review, unlike any other offshore wind energy project. Any cumulative impacts between the Cape Wind Project and any still-hypothetical other projects can be addressed, as is appropriate under NEPA, when later projects are advanced to a more concrete stage.

V. In preparing a new Draft EIS for the Cape Wind Project, MMS should fill in the remaining data gaps left from the review of the ACOE Draft EIS.

As discussed above, the ACOE Draft EIS included an extensive analysis of the Project and project alternatives, and appropriately should form the basis for the Draft EIS now being prepared by MMS. Nonetheless, as with any project of this size and complexity, the ACOE's Draft EIS left several important issues unresolved. CLF commented extensively on the ACOE Draft EIS (see attachment). With the

exception of comments directed at ACOE as the lead agency, those comments remain relevant, and CLF incorporates its comments on the ACOE Draft EIS herein by reference. CLF wishes to highlight the following issues from its earlier comments:

Project Benefits:

The Draft EIS should provide more discussion of project benefits, to provide the appropriate context in which MMS can evaluate the impacts (both positive and negative) of the project and feasible alternatives. The EIS should review the project in the context of global concerns with climate change, and should include expanded focus on the public health impacts of traditional patterns of energy generation. The discussion of project benefits should include analysis of how the project advances federal and state policies on renewable energy and climate change, as well as any benefits with respect to electricity rate savings, compliance with Massachusetts Renewable Portfolio Standard (RPS) and Climate Protection Plan, and electric system reliability.

Avian Impacts:

The Draft EIS should include refined estimates for bird mortality, incorporating additional studies that have been undertaken since publication of the ACOE's Draft EIS. CLF recognizes the challenges in estimating bird mortality, which may require knowledge of flight patterns, the number of species and individuals present, weather conditions, and numerous other factors, including the presence or absence of the turbines themselves. It is also important to note that, despite the difficulty in precisely estimating bird mortality, the risks posed by wind turbines are generally orders of magnitude less than the risks from other human activities, such as continued reliance on fossil fuels as a primary power source, with all of its direct risks (oil spills, collisions with infrastructure) and indirect risks (loss of habitat from mining and extraction, and long term habitat loss through climate change). The Draft EIS should contain sufficient information to allow reviewers to understand the benefits and risks to birds of developing the Cape Wind project as compared to the no build scenario (where continued reliance on fossil-fuel powered electricity generation is maintained).

Potential impacts to the Roseate tern are of particular concern to CLF, since this species is listed as endangered under both the federal and Massachusetts Endangered Species Acts, and a large fraction of known breeding pairs spend part of their life cycles in southern Massachusetts, especially in the months of May and June. The Draft EIS should provide data on mortality risks for individual terns and viability risks for the population as a whole, based on estimates of Roseate tern presence within the rotor swept zone of the turbines. The Draft EIS should also discuss any adaptive management strategies under consideration for minimizing impacts to Roseate terns, such as operational modifications during any periods of heavy use of Nantucket Sound by Roseate terns.

Similarly, the Draft EIS should include refined estimates of mortality risks to sea ducks, based on transits of the rotor swept zone. The Draft EIS should also discuss any risks to population viability (although with a current population of 180,000 in Nantucket Sound it is unlikely that the project will have an impact on population stability). The Draft EIS should also compare mortality risks from the turbines with known existing mortality risks, such as recreational hunting, and discuss any potential for cumulative risks.

The Draft EIS should clarify that the design of the monopile foundations will not create artificial reefs, which could lure fish (and hence birds hunting fish) into close proximity of the rotor swept zone.

Given the relative newness of offshore renewable energy development in the United States, CLF expects that the Draft EIS will not be able to resolve all uncertainty on the issue of potential bird mortality risks. Therefore, it is important that the Draft EIS include a post construction monitoring program designed to gather scientifically useful information on bird mortality, and mechanisms for sharing of data.[5] The Draft EIS should also discuss how data collection will inform the adaptive management strategies under consideration.

Noise and EMF Impacts:

The Draft EIS should include information on underwater noise impacts (both construction and operation), particularly any potential noise impacts to marine mammals and sea turtles. The Draft EIS should also discuss potential noise impacts on bats from ultrasonic frequencies above the water level. The Draft EIS also should discuss whether any impacts on marine life are anticipated from electromagnetic fields generated by the project.

Construction Impacts on the Reproduction and Migration of Fishes, Crustaceans, and Other Marine Life and on Submerged Aquatic Vegetation:

The Draft EIS should include information on spawning and migration periods and locations after consultation with the Massachusetts Division of Marine Fisheries and NOAA Fisheries and should propose a work schedule that will minimize impacts to reproduction and migration of fishes, crustaceans, and other marine life. Attention should also be paid to specifying strategies to avoid impacts to submerged aquatic vegetation, particularly in bringing submarine cables to shore.

Monitoring and Management:

As noted above, the Draft EIS should include an update on the adaptive management strategies under development, and discuss any post-construction monitoring. The Draft EIS should develop a system for real-time sharing of monitoring data, develop a more detailed construction monitoring program, and develop protocols for determining species-specific operational mortality rates.

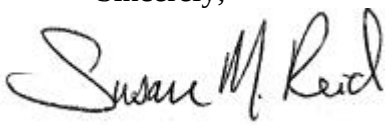
[5] [5] Section 703 of the Migratory Bird Treaty Act (MBTA), 16 USC 703-12, establishes a broad prohibition against "takes" of migratory birds. Section 707(a) establishes a misdemeanor crime for violations of the MBTA with fines of up to $15,000 and 6 months imprisonment per violation. Section 707(a) of the MBTA has been interpreted as imposing strict liability for the take of any migratory bird without a permit from the Secretary of the Interior. Courts appear to be split on what types of incidental takes can trigger strict liability (see generally 3 ALR Fed 2d 465 for a summary of relevant case law). The lingering uncertainty may complicate data collection activities, and should be addressed in the EIS.

Conclusion

The Cape Wind Project is an important step in weaning New England away from a fossil fuel economy, towards a more sustainable energy future. Compelling public policy reasons support expeditiously moving forward with the environmental and permitting review of the Cape Wind Project. The Draft EIS should be used as an opportunity to update and fine-tune the analysis presented in the ACOE Draft EIS, not to further delay action on this important project.

CLF thanks you for this opportunity to comment.

Sincerely,



Susan M. Reid
Staff Attorney

Attachments: CLF comment letter to ACOE on Cape Wind Draft EIS, 02/23/05
CLF letter to Secretary Norton, 11/16/05

cc: U.S. ACOE
Massachusetts EOEA
Cape Wind Associates LLC

CONSERVATION LAW FOUNDATION COMMENTS
ON THE CAPE WIND ENERGY PROJECT
U.S. ARMY CORPS OF ENGINEERS REFERENCE FILE NAE-2004-338-1
FEBRUARY 23, 2005

The Conservation Law Foundation (CLF) is pleased to submit these comments on the Draft Environmental Impact Statement / Draft Environmental Impact Report / Development of Regional Impact ("DEIS/DEIR/DRI" or "DEIS") for the proposal by Cape Wind Associates LLC ("Cape Wind") to construct a utility-scale wind turbine installation in Nantucket Sound ("Cape Wind Energy Project" or the "project").

In the controversy that has surrounded Cape Wind's proposal to date, heated debate has revolved around legal and aesthetic issues. Other efforts to promote wind power in Nantucket Sound have been launched based solely on the obvious crisis presented to this region by our extravagant and unsustainable combustion of fossil fuels. Climate change issues are, indeed, an essential part of the understanding the environmental and social benefits of wind power projects such as Cape Wind's and we begin our comments with a presentation of some of these broad contextual issues.

The specific task at hand is *not* an evaluation of the evidence for global climate change or the need for wind power *per se*; those, unfortunately, appear to be givens for New England at this stage. These comments, rather, are part of a critical review of the draft of an environmental impact statement so that a Final EIS can be produced that supports an informed decision about the impacts and alternatives associated with this project. CLF believes that this task must be born in mind as the community moves forward with the review of this project. We contribute these comments to the review process in that spirit.

I. Introduction

CLF is a public interest advocacy organization that works to solve the environmental problems that threaten the people, natural resources and communities of New England. Founded in 1966, CLF is a nonprofit, member-supported organization. CLF promotes clean, renewable and efficient energy production in New England and has an unparalleled record of advocacy on behalf of the region's marine environment and the scenic qualities of Cape Cod and the Islands. As part of its 40-year legacy in this region, CLF has prevented drilling for oil and gas on Georges Bank, led the legal effort to clean-up Boston Harbor and other major coastal estuaries, fought to reduce damaging off-road vehicle use on the beaches and dunes of the Cape Cod National Seashore and successfully advanced legal strategies to restore groundfish to the Gulf of Maine and southern New England waters.[1]

[1] *Conservation Law Foundation v. Clark*, 594 F. Supp. 1373 (D.Mass. 1984); *Conservation Law Foundation v. Secretary of the Interior*, 790 F.2d 965 (1st Cir. 1986); *Conservation Law Foundation v. Clark*, 590 F. Supp. 1467 (D.Mass 1984); *Conservation Law Foundation v. Metropolitan District*

Our goal in these comments is to offer perspective, insight and practical suggestions on a variety of important topics that should be at the core of the review and permitting process for this critical renewable energy project. The contextual backdrop to CLF's consideration of the Cape Wind Energy Project is the imperative need to evaluate this project in the larger context of the global crisis of climate change, a context that includes overarching environmental, public health, energy policy, legal and regulatory considerations that are not present with most other development projects. To the degree that New Englanders fail to understand and act effectively on the crisis presented by climate change, the regional ecosystem that New Englanders have experienced throughout human history could be irrevocably changed. To pretend that any of these contextual considerations do not exist would be an abdication of the responsibility the living generations have as stewards of this regional resource.

It is especially important for New England to address the forces that are driving climate change, because New England is both a major source of the climate change problem *and* likely to be affected dramatically by it. According to the National Environmental Trust, Massachusetts alone emits more greenhouse gases than 72 developing countries with a combined population of more than 300 million people.[2] Since 1970, New England's total energy consumption has increased by 23%, about 1% per year, despite the expansion of energy conservation programs.[3]

To meet the challenge of reducing fossil fuel emissions and the associated threats to public health and the global climate, New England must immediately embrace the process of bringing sources of clean energy into the region. The Cape Wind Energy Project provides a chance to begin this process, providing the region's first major source of wind energy-based power production and the opportunity to obtain experience that will allow the region to more rapidly build a full portfolio of clean energy facilities that is needed. If built, the Cape Wind Energy Project should be both a rich source of clean energy and a source of essential new information for guiding future projects.

II. The costs and benefits of the Cape Wind Energy Project must be evaluated in a larger environmental and social context.

A. The Environment and Public Health Context

The world is in the midst of a fundamental ecological crisis flowing from the unsustainable dependence on and combustion of fossil fuels; extravagant and polluting patterns of energy consumption, particularly in the developed world; and the deep, ubiquitous and systemic damage to the environment and public health that is resulting

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Commission, 757 F. Supp. 121 (D.Mass 1991); *Conservation Law Foundation v. Evans*, 209 F. Supp.2d 1 (D.D.C. 2001); *Conservation Law Foundation v. Evans*, 203 F.Supp.2d 27 (D.D.C. 2002); *Conservation Law Foundation v. Evans*, 211 F. Supp.2d 55 (D.D.C. 2002).

[2] National Environmental Trust, *First in Emissions, Behind in Solutions*, 2002, p. 35.

[3] New England Council, *New England Energy Supply & Demand: 2001 Report & Agenda for Action*, Polestar Communications & Strategic Analysis: Boston, MA, 2001, p. 5.

from our energy choices. The combustion of fossil fuels to power our life styles and our economies is at the heart of the problem. Recent scientific estimates conclude that actions must be taken to reduce anthropogenic sources of these gases within 10 years to avoid natural climate change sequences from initiating, which may well be beyond our ability to control thereafter.

This is a crisis that will not be resolved simply by improved "end-of-the-pipe" technology solutions or bandaged approaches. The answer requires significantly increased conservation and efficiency in homes and buildings as well in our transportation systems at all scales of human organization. The answer also requires the development of significant sources of non-polluting renewable energy. These responses must be immediately implemented.

The symptoms of this fossil fuel-driven crisis are already present on and around Cape Cod and the nearby islands, the proposed site of the Cape Wind Energy Project. Cape Cod suffers from some of the worst air quality in the entire New England region during the summertime. Sunlight and heat catalyze air pollution from distant and local power plants and from cars, turning these vapors into the searing ground level ozone that prompts public health warnings for vulnerable populations to restrict their activities. Increased storm activity and severity which are associated with the early stages of the climate change phenomenon place all south-facing sandy shorelines of the Cape Cod region at heightened peril to erosion.

The very physical shape and present contours of Cape Cod and the islands of Nantucket Sound and Buzzard's Bay, not to mention the hundreds of millions of dollars of private and public investment associated with these shorelines, are threatened by the relentless rise of sea levels. Numerous local scientists associated with distinguished institutions of international repute, such as the scientists of Cape Cod at the Woods Hole Oceanographic Institution, the Woods Hole Research Center and the U.S. Geological Survey research center in Woods Hole, are included in the ranks of those who have concluded that immediate actions need to be taken at all levels to avert the worst potential consequences of climate change.[4] While some of the south-facing beaches of Cape Cod may well be the area that would experience the greatest aesthetic impact of the proposed project, these same beaches are the "south facing outwash plain" that has been identified by scientists as particularly vulnerable to sea level rise.[5] These resource areas, which are so uniquely at risk to extensive climate change damage, are critical both to the world-famous recreational aspects of this area as well as to the ecological characteristics that make these beaches critical habitat to several endangered bird species.

Moreover, the migratory bird species that are understandably the subject of so much concern in the review of the Cape Wind Energy Project are greatly dependent on the stability and health of ecosystems in many other parts of the world that are already experiencing wrenching transformation as the climate changes. These critical habitats

[4] *See, e.g.*, Graham S. Giese and David G. Aubrey, "Loss of Coastal Upland to Relative Sea level Rise," *Coastal Brief:* 1994-02, Woods Hole Oceanographic Institution, Coastal Research Center.
[5] *Ibid.*

will see far worse alterations as global warming continues.[6] This fundamental ecological context is what sets the environmental review of the Cape Wind Energy Project apart from virtually any other development project that CLF has reviewed. It is a context that cautions against using narrowly drawn perspectives or conclusions.

If the DEIS for this project has one fundamental shortcoming from CLF's perspective, it is its failure to spell out with specificity the public health and climate change consequences of continued failure to immediately reduce greenhouse gas emissions by aggressive use of conservation, fuel-switching, end-of the-pipe reduction technologies, renewable energy development, and efficiency investments. This fundamental context, on which so much of what all New Englanders hold precious depends, should be more clearly described in the Final EIS and considered in the ultimate decision-making and public interest evaluation process.

B. The Energy System Context

Motivated by a variety of concerns, Massachusetts and, to a lesser degree, the federal government have made fundamental decisions about the direction of energy policy and development. Massachusetts has charted a clear policy direction in favor of the development of renewable energy sources through the creation of the Renewable Portfolio Standard[7] along with launch of the Massachusetts Renewable Energy Trust.[8] Congress has provided the much smaller and recently renewed incentive of federal Production Tax Credits for renewable energy.[9] It is also noteworthy that a significant regional multi-state initiative going beyond New England is underway to control greenhouse gas emissions from electricity generation throughout the entire northeastern United States.[10] The project under review in this process represents a positive, even hopeful, response to these policies: a private facility being built to supply electricity from a renewable source.

The policy choice to provide incentives for renewable energy was made not only with the ecological perspectives noted above in mind, but also in order to buffer ratepayers and the Massachusetts economy from the chaos and economic pain that fluctuations in fuel prices will continue to bring to our energy markets. The U.S. Energy Information Agency has forecast that a serious national commitment to renewable energy would yield $9.1 billion in savings on natural gas bills and $4.4 billion in savings on electricity bills over a 20-year period.[11] This conservative estimate highlights the critical importance to the economy that renewable energy programs can make and the importance of getting this precedent-setting decision in Nantucket Sound right. We believe that this context should be more clearly, plainly and effectively presented in the Final EIS, by

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[6] *See generally*, documents at http://www.acia.uaf.edu/.
[7] *See generally*, 225 Code Mass. Regs. 14.00.
[8] *See generally*, Mass. Gen. Laws c. 40J § 4E.
[9] 26 U.S.C. § 45.
[10] *See generally*, www.rggi.org.
[11] EIA, Impacts of a 10-Percent Renewable Portfolio Standard, SR/OIAF/2002-03. February 2002.

explicit identification of how the project advances significant energy policy goals articulated in state and federal statutes, regulations and executive orders.

Moreover, the DEIS accurately notes that "under the No Action Alternative, or if the permit is denied, it is likely that commercial development of offshore wind power in the United States, at a comparable size and scale of that proposed by the Applicant, will not advance significantly." DEIS at 3-27. Significant wind power development has occurred in areas of the United States such as the Midwest and Texas where large areas of private lands are available and useable for this purpose. Similar opportunities in New England are rare and are not readily connected to the power distribution network.

The Cape Wind review will likely establish a precedent for future reviews of offshore wind projects as well as wind-powered energy projects on federal land. Given that the policy choice noted above looks to the private market to advance the renewable energy initiative, development barriers have to be set at reasonable levels and must acknowledge that many of the first marine projects will move forward with less than perfect information or scientific assessments of the interactions between the projects and important marine and coastal mammal, fish and avian species. The responsible course of action, given the climate change imperative driving renewable projects such as the Cape Wind Energy Project, is to ensure that a credible and thorough environmental review analysis has been done to ensure that risks and benefits of the project are as clearly identified as possible given the developmental stage of technology.

If such analysis concludes that it is environmentally responsible to move the project forward given both the specific project impacts as well as the larger ecological context to which renewable projects are responding, the project should be moved forward. However, it should be conditioned to insure the collection and analysis of monitoring data as necessary to minimize environmental impacts of the project and to allow improved reviews and decision-making with respect to future projects. Indeed, the sobering truth is that in order to meet critical objectives for reducing emissions of CO_2, SO_2, NO_x and other pollutants in New England, the region must develop a number of onshore and offshore utility-scale wind facilities. The pioneering Cape Wind Energy Project, if properly executed, could provide information essential to reaching the regional objective in a timely manner. As the accuracy and scope of this information would provide significant public benefits beyond those to the individual wind project itself, CLF concludes that it is appropriate and necessary for government and other stakeholders in the wind industry to assist in the financing, design and oversight of systems for data collection.

C. The Regulatory Context

CLF has followed the Cape Wind Energy Project very closely since it was first announced nearly three years ago. In April of 2002, CLF submitted detailed comments on the proposed scope for the Cape Wind DEIS/DEIR/DRI. In May of 2002, CLF submitted comments urging approval of Cape Wind's application for an Army Corps of Engineers "Section 10" permit for construction of a Scientific Measurement Devices

Station ("SMDS" or "data tower") that would supply important data for the review of the proposed Cape Wind Energy Project itself.

CLF has invested considerable research and analysis into the legal, regulatory and permitting questions raised by the Cape Wind Energy Project and by the fact that the project would be located in federal waters. In a November 7, 2002 letter, CLF, joined by several other environmental groups, responded to concerns raised by Massachusetts Attorney General Thomas F. Reilly about the sufficiency of the Army Corps of Engineers' ("Corps" or "ACE") Section 10 permitting. In that letter and in subsequent congressional testimony[12] as well as in *amicus curiae* briefs filed in the Federal District Court for the District of Massachusetts[13] and in the First Circuit Court of Appeals,[14] CLF has defended the adequacy of the Section 10 review process and the environmental review requirements of the National Environmental Policy Act ("NEPA") to identify and assess the Cape Wind Energy Project's potential benefits and adverse impacts.

While CLF strongly believes that an integrated, ecologically-informed ocean management approach for federal and state marine waters is needed and that a comprehensive permitting framework for offshore renewable energy development is desirable, CLF strongly disagrees that a moratorium is necessary or prudent on offshore wind development pending enactment of a new framework for managing offshore wind development. Renewable energy is urgently needed in order to offset harmful fossil fuel emissions that pollute the air, cause global warming and damage the public health. A moratorium does more long-term harm than good for New England. The review process currently underway with the Cape Wind Energy Project can meet the challenge of responding in a timely and appropriate manner to the larger environmental and energy policy context while staying true to the essential mission and function of the existing statutes and regulations that guide the process.

III. Specific Comments on the Draft EIS

CLF's staff have identified specific gaps and concerns about the data and analysis presented in the DEIS that we presently believe need to be addressed before federal decision-makers can be determine whether the project can move forward in an environmentally responsible manner. These issues should be resolved and addressed in the Final EIS prior to the issuance of any permits. We have identified other issues that we believe can be properly addressed and managed after permit issuance. All regulatory issues that are dealt with through post-permitting mechanisms and conditions need to be the subject of clear statements regarding what those mechanisms will be. CLF's experience with many large-scale projects is that it is possible to create effective post-

[12] Testimony of Peter Shelley of the Conservation Law Foundation on behalf of the Conservation Law Foundation, the Union of Concerned Scientists, Natural Resources Defense Council, and Environmental Defense, before the Subcommittee on Energy and Mineral Resources, Concerning HR 793, A Bill to Amend the Outer Continental Shelf Lands Act, March 6, 2003.

[13] *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, C.A. NO. 02-11749 JLT (D.Mass.), Brief of Amicus Curiae Conservation Law Foundation, Jan. 15, 2003.

[14] *Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army*, Docket No. 03-2604 (1st Cir.), Brief of Amicus Curiae Conservation Law Foundation, May 19, 2004.

construction monitoring and management programs for complex projects if the program requirements are well-designed, executed and enforced. It is also all too easy to find examples in our region where post-permitting monitoring and management programs have failed to protect the public interest and avoidable environmental harms have occurred. To avoid the latter situation, we make suggestions below such as the creation of an independent science advisory board to oversee development of this project and to ensure that legitimate environmental concerns are identified and addressed in a timely and responsible manner during and after construction.

A. The DEIS does not adequately address the dangers of climate change and the benefits of renewable energy.

The discussion of project benefits in the DEIS is scattered throughout the document, in many cases buried toward the end of the Corps' consideration of potentially adverse impacts in Section 5 of the document. This is confusing and CLF urges the Corps to include a prominent separate section on "Project Benefits" in the Final EIS, either within or immediately following the section on "Project Purpose and Need." Such section should describe the importance of the project in terms of furthering the deployment of renewable energy.

The substantive discussion of project benefits is too cursory and should be expanded in the Final EIS in order to give the reader an understanding of the substantial advantages of advancing this renewable energy project. This is especially true with respect to the interaction between the project and emissions from other forms of electricity generation, particularly with regard to the local fossil fuel power plants that would be displaced, i.e. not dispatched, as a result of the operation and generation of the Cape Wind Energy Project.

An understanding of climate change, also known as "global warming," is essential to assessing the significant potential benefits of utility-scale renewable energy projects such as the Cape Wind Energy Project, and to balancing the potential environmental costs of the project with the corresponding environmental benefits of the project to the environment and public health. Unfortunately, the DEIS contains only very little information about climate change and the importance of utility-scale renewable energy projects in reversing the global warming phenomenon. DEIS Section 5.15 does address "Air and Climate," but it addresses the problem of climate change – and the corresponding potential benefits of the Cape Wind Energy Project – in an unfortunately cursory manner. The Final EIS should include a prominent discussion of climate change and the benefits of renewable energy. This discussion and analysis should be in a "Project Benefits" section.

1. <u>The fundamental challenge of global warming</u>

The discussion of climate change in the Final EIS should note that the U.S. federal government, in its 2002 "Climate Action Report," has acknowledged the existence of global warming and made a commitment to curb greenhouse gas

emissions.[15] More recently, a Pentagon-commissioned report predicted a "plausible" scenario of abrupt climate change in which resulting "food, water, and energy resource constraints will first be managed through economic, political, and diplomatic means," but that over time, "conflicts over land and water use are likely to become more severe – and more violent."[16] The November 2004 release of the Arctic Climate Impact Assessment revealed to the world dramatic findings and predictions about Arctic warming – including the fact that climate change is *now* affecting the Arctic, and that at least half of the summer sea ice in the Arctic is projected to melt by the end of this century, significantly contributing to further warming, global sea level rise and habitat losses.[17]

The need to act now to combat climate change has also been recognized at the regional and state level. In 2001, the Conference of New England Governors and Eastern Canadian Premiers acknowledged that greenhouse gas emissions must be reduced from current levels by 75-80% to eliminate the threat of climate change and issued a regional climate action plan.[18] In the spring of 2004, the Commonwealth of Massachusetts released its own state-based plan, known as the "Climate Protection Plan," for reducing greenhouse gas emissions and promoting energy efficiency to combat climate change.[19]

Indeed this pressing and preemptive need to address the CO_2 emissions causing global warming is already a prime mover behind state energy and environmental regulatory policy, as the Department of Environmental Protection of the Commonwealth of Massachusetts noted in support of its groundbreaking rules regulating CO_2 emissions from coal-fired power plants:

> To avert dangerous climate disruption, the IPCC states that the current global emissions of about 6 billion tons carbon equivalent, now projected to increase to about 20 billion tons by the end of this new century, would have to decrease to less than three billion tons by that time. Even then, the carbon equivalent in the atmosphere would reach about 450 parts per million, about 60 percent above pre-industrial levels, which would still entail some climate change, sea-level rise, and ecological impact.[20]

Recent international processes have highlighted the essential need for industrialized nations, like the United States, to address this crisis by, among other

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[15] U.S. Dept. of State, *The United States of America's Third National Communication Under the United Nations Framework Convention on Climate Change* (May 2002).
[16] Peter Schwartz and Doug Randall, An Abrupt Climate Change Scenario and Its Implications for United States National Security, October 2003.
[17] ACAI, *Impacts of a Warming Arctic: Arctic Climate Impact Assessment*, Cambridge University Press, 2004.
[18] New England Governors/ Eastern Canadian Premiers, Climate Change Action Plan 2001, August 2001.
[19] Commonwealth of Massachusetts, Massachusetts Climate Protection Plan, Spring 2004.
[20] STATEMENT OF REASONS AND RESPONSE TO COMMENTS FOR 310 CMR 7.00 et seq.: 310 CMR 7.29 – Emission Standards for Power Plants, April, 2001, http://www.state.ma.us/dep/bwp/daqc/files/regs/finalrsn.doc

measures, generating at least 25% of their electricity from clean, renewable and non-emitting resources like wind power.[21]

The statutorily prescribed energy policy of Massachusetts is clear in its direction to favor and build renewable energy. This energy policy is articulated through the regulatory mandate of the Renewable Portfolio Standard[22] and the financial incentive mechanisms that flow from the Massachusetts Renewable Energy Trust.[23] The Climate Protection Plan unveiled by Massachusetts Governor Mitt Romney identifies the development of renewable energy as being a primary tool that must be used to address the fundamental threat to our environment posed by global warming: "access to cleaner energy supplies, including the building of renewable and green resources - from photovoltaic panels and wind generators to ultra-clean fuel cells - represents an important way to meet future energy needs while dramatically cutting carbon emissions."[24]

2. The impact of climate change on New England

Global warming has dramatic implications for New England's weather and natural heritage. Conservative computer models suggest that within the next century, the climate of Massachusetts will resemble that of North Carolina or possibly Georgia. New England's autumn foliage, maple syrup production and ski season will all become a distant memory.[25] Habitat areas that now support familiar wildlife species, including beloved songbirds and sought after fishes, will no longer be suitable and these species will move to new areas or perish.

While Section 3.3 of the DEIS describes conditions and impacts that could be expected if the Cape Wind Energy Project were not developed, far more can and should be said on this subject. This section of the DEIS highlights certain anticipated adverse effects of additional or expanded fossil fuel power plant facilities including:

- The visual landscape at one or more locations elsewhere in New England would change with the likely addition of one or more stacks and associated facilities from a natural gas-fired power plant. DEIS at 3-27.
- Local impacts to birds, fish and other resources would occur to a greater or lesser extent (depending upon resource and location) as the result of the development and operation of a fossil fuel power plant elsewhere in New England. DEIS at 3-28.

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[21] *See*, Recommendations of International Climate Change Taskforce, January 2005, http://www.americanprogress.org/atf/cf/%7BE9245FE4-9A2B-43C7-A521-5D6FF2E06E03%7D/CLIMATECHALLENGE.PDF.

[22] *See generally*, 225 Code Mass. Regs. 14.00.

[23] *See generally*, Mass. Gen. Laws c. 40J § 4E.

[24] Massachusetts Climate Protection Plan, Executive Summary at p. 10 (Spring 2004) (http://www.mass.gov/ocd/docs/MAClimateProtectionPlan.pdf).

[25] *See* Conservation Law Foundation, *Heritage in Peril: New England and Global Warming*, p. 2-6 (and sources cited therein). Report available at http://www.clf.org/general/index.asp?id=335.

Notably absent from this list, however, are the observed and predicted environmental impacts of climate change in the New England region, including sea level rise and coastal degradation, for which utility-scale renewable energy projects are urgently needed. Among these impacts are the dislocation and wide-scale transformation of the bird species traditionally found on Cape Cod.[26] Similar dramatic and negative population shifts in commercial and non-commercial marine fish populations are anticipated with climate change.[27] The Final EIS should expand the list of anticipated environmental impacts of the No Action Alternative to include climate change impacts attributable to fossil fuel power generation. A direct impact of the No Action Alternative is the loss of the Cape Wind Energy Project's offset of about 1,000,000 tons per year of carbon dioxide emissions.

3. The positive impacts of the Cape Wind Energy Project on public health

Substantial reduction in fossil fuel power plant emissions and other pollutants is critical as a matter of public health. Air pollution causes thousands of premature deaths in New England every year, with a substantial and well-documented part of the mortality attributable to the region's old fossil fuel power plants.[28] Southeastern Massachusetts has New England's heaviest concentration of coal-fired power plants.

The DEIS contains a brief discussion of public health benefits and related cost savings of the Cape Wind Energy Project at Section 5.16.4.3, as well as a brief discussion of the adverse public health impacts and economic costs imposed by fossil fuel power generation at Section 5.16.3.3. Notably, the DEIS estimates beneficial health effects of the Cape Wind Energy Project to include a reduction of about 12 premature deaths, 20 cases of bronchitis, 200 emergency room visits, 5,000 asthma attacks, 15,000 restricted activity days and 35,000 respiratory symptom days. The cost savings of these reductions in health problems is estimated at $53 million. These findings constitute significant project benefits, which should be included, along with the discussion of climate change, in a "Project Benefits" section recommended above.

Additionally, the DEIS fails to address the adverse health consequences of the No Action Alternative. As noted above, Section 3.3 of the DEIS describes conditions and impacts that could be expected if the Cape Wind Energy Project were not developed. The Final EIS should expand its discussion of the No Action Alternative to include health

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[26] *See* Ivan Valiela and Jennifer L. Bowen, *Shifts in Winter Distribution in Birds: Effects of Global Warming and Local Habitat Change*, Ambio Vol. 32 No 7 (Nov. 2003).

[27] *See generally*, Donald F. Boesch, John C. Field, and Donald Scavia, The Potential Consequences of Climate Variability and Change on Coastal Areas and Marine Resources: Report of the Coastal Areas and Marine Resources Sector Team, U.S. National Assessment of the Potential Consequences of Climate Variability and Change. U.S. Global Change Research Program. NOAA Coastal Ocean Program Decision Analysis Series No. #21. NOAA Coastal Ocean Program. (Silver Spring, MD, 2000); Victor S. Kennedy, Robert R. Twilley, Joan A. Kleypas, James H. Jr. Cowan and Steven R. Hare, Coastal and Marine Ecosystems & Global Climate Change. Potential Effects on U.S. Resources, Prepared for the Pew Center on Global Climate Change, 2002.

[28] *See* Jonathan I. Levy and John D. Spangler, *Modeling the Benefits of Power Plant Emission Controls in Massachusetts*, 52 J. of the Air & Waste Mgmt. Ass'n. 5 (2002).

impacts attributable to fossil fuel power generation. Direct health impacts associated with a decision to not proceed with the Cape Wind Energy Project are attributable to the loss of Cape Wind's offset of nearly 1,000,000 tons per year of carbon dioxide emissions, 1,180 tons of nitrogen oxides (NO_x), and 4,000 tons of sulfur dioxide (SO_2). The indirect health impacts are much more far-reaching, as denial of a permit to the Cape Wind Energy Project may chill utility-scale renewable energy development in New England for years to come.

4. <u>The positive impacts of the Cape Wind project to electricity consumers</u>

Section 5.16.4.2 of the DEIS correctly documents the conclusions of the staff of the Massachusetts Energy Facilities Siting Board, based upon a study by La Capra Associates that the project would have a positive impact on electricity rates and costs across the region. The estimate of a total annual savings to ratepayers of approximately $25 million per year for the first five years is significant and should be highlighted prominently in the "Project Benefits" section recommended above. It should also be noted that the cost savings estimate is very conservative and that actual cost savings are likely much higher. The La Capra study itself notes that its simulation used an assumed cost of fossil fuels that was lower than actual prices, which spiked in 2000, early 2001 and late 2002. Natural gas prices have continued to rise in 2003 and 2004. This trend suggests that La Capra may substantially have underestimated ratepayer savings.

The renewable energy that would be generated from the Cape Wind Energy Project is also needed for compliance with Massachusetts Renewable Portfolio Standards (RPS) obligations. Accordingly, the Final EIS should include, in its "Project Benefits" section, the satisfaction of near- to medium-term RPS obligations and the consumer cost savings associated with meeting the RPS standards. The Final EIS should also highlight the likelihood of higher consumer energy costs in the "No Build" portion of the Alternatives Analysis.

5. <u>The positive impacts of the Cape Wind Energy Project on system reliability</u>

Section 5.16.4.2 of the DEIS recognizes the fuel diversity and reliability benefits of the project, but fails to highlight the specific analysis performed by the U.S. Department of Energy (DOE) that is presented in Appendix 2.0-A. The Final EIS should cite to the DOE's specific findings regarding the added reliability that the proposed project would bring the regional electricity grid. In particular, the Final EIS should highlight DOE's conclusion that: "During the January 14-16, 2004 period of natural gas shortage, the Cape Wind Energy Project, if it had been constructed and was online, would have made a significant contribution to the power supply and reliability of the regional grid." DEIS Appendix 2.0-A at p. 7. The Final EIS should also include a discussion of the unique combination of "cold snap" factors that led to DOE's conclusion: high demand for gas for space heating during "cold snap" conditions; difficulty in operating a combined cycle gas plant during such conditions; economic pressure on such plants to sell gas for heating rather than burn it for electricity production; and the proven, high

likelihood that such conditions will coincide with peak operating conditions for the proposed wind energy facility.

B. Existing regulatory programs provide a sufficient legal basis for reviewing the Cape Wind Energy Project.

The specific regulatory context for the Cape Wind Energy Project has two critical frameworks. The first framework is the specific legal and regulatory structure for the permitting of the project. Below we present our perspective of that regulatory structure, both with regard to the federal review conducted by the Corps and the specific aspects of the state review. This perspective is necessary as a result of the unusual amount of disinformation and false controversy created around these existing regulatory mechanisms by project opponents.

The second framework for project review is more factual – the "nuts and bolts" analysis of the potential impacts of the project through the frame of the regulatory statutes, an analysis that we employ to shape and present specific recommendations regarding the specific further analyses, monitoring requirements and permit conditions that need to be developed by the regulatory authorities in order to move the project forward.

1. <u>The permitting jurisdiction of the Army Corps of Engineers, NEPA, and the Section 10 "public interest review"</u>

The DEIS in Section 7.2.2.1 correctly notes that the construction "of any structure in, over, or under navigable waters of the United States requires a Section 10 permit," that the wind farm and the underwater transmission cables "are considered structures in navigable waters of the U.S.," and, accordingly, that "Section 10 jurisdiction applies to the proposed project." DEIS at 7-3. Notwithstanding the claims of project opponents, the Army Corps' Section 10 authority *is not* limited to state waters, structures used for oil and gas mining, or to questions of navigability. CLF argued this point extensively in an *amicus curiae* brief in the Cape Wind test tower litigation, in which the Massachusetts District Court confirmed that the Corps' Section 10 authority extends to all structures on the Outer Continental Shelf regardless of their purpose.[29]

This Section 10 permitting process requires that the Corps engage in an extensive "public interest review" and act as the "lead" agency for a number of inter-agency review processes, most importantly an environmental analysis under the National Environmental Policy Act ("NEPA"). In conducting its "public interest" analysis pursuant to Section 10, the Corps must consider all factors that may be relevant to the proposal and then grant a permit unless, upon review, the Corps determines that the project would be against the public interest. Factors include "conservation, economics, aesthetics, general

[29] *See* Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army, 288 F. Supp. 2d 64 (D. Mass. 2003). That legal conclusion was recently upheld by the First Circuit Court of Appeals. *See* Alliance to Protect Nantucket Sound v. U.S. Dept. of the Army, -- F.3d --, 2d 64 2005 WL 357,636 (1st Cir. Mass. Feb. 16, 2005)

environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general, the needs and welfare of the people." 33 C.F.R. § 320.4(a)(1).

The Section 10 public interest review significantly overlaps with and guides the work of the Corps as the lead federal agency in the NEPA process. The Corps is required – based on quantitative and qualitative data supplied by the project proponent – to prepare an Environmental Assessment ("EA") or an Environmental Impact Statement ("EIS"). 33 C.F.R. § 325, App. B. In this case, the Corps has determined that an EIS is required and engaged 16 other federal and state agencies in relevant review processes. The alternatives analysis is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14, *cited in* Sierra Club v. Marsh, 714 F.Supp. 539, 572-3 (D. Me. 1989). A proper analysis of alternatives requires the lead agency to be extremely careful in identifying the purpose of the project and evaluating alternatives that may or may not achieve that purpose.

Appropriate formulation of a project purpose focuses on the project need. The Army Corps of Engineers has determined that the purpose and need of the Cape Wind Energy Project is "to provide a utility-scale renewable energy facility providing power to the New England grid." DEIS at 2-2. This formulation of need arises directly out of New England states' laws and policies to stimulate renewable energy production.

Indeed, it is impossible to imagine that the challenge of the Regional Greenhouse Gas Initiative (mentioned above), which is attempting to fashion a "carbon cap and trade" program for electricity generating facilities in the Northeastern United States,[30] can be met without multiple facilities of this sort and scale coming on line in the near future. The preliminary baseline modeling for that process suggests that efficient economic operation of the regional power system (that maintains current positive trajectories for reduction in nitrogen oxide and sulfur dioxide emissions) will require the siting and building of roughly 4 Gigawatts (4,000 Megawatts) of wind generation in the near future.[31] It is reasonable to assume meeting a carbon cap will require even more wind generation and that a significant percentage of this generation will need to be sited in New England, reinforcing the "purpose and need" determination in the DEIS.

The alternatives analysis presented in Section 3.0 of the DEIS is a solid and competent attempt at meeting this "purpose and need" determination and substantially responds to the issues identified in federal and state scoping documents (the Army Corps' EIS scope of work and MEPA Scoping Certificate) in this critical area. This analysis, moreover, could be strengthened in the Final EIS.

2. Questions of renewable technology and site location alternatives

[30] *See generally*, http://www.rggi.org.
[31] http://www.rggi.org/docs/prelim_results_11_12_04.pdf.

The DEIS comes to the sound conclusion that the only viable renewable energy technology currently capable of shouldering a utility-scale load is wind generation. The other renewable technologies presented and analyzed in Section 3.2.2 of the DEIS are important elements in building a clean energy future for Massachusetts, New England, the United States and the world, but they are not currently capable of fulfilling the function of providing large "utility-scale" energy generation in New England.

The DEIS could be improved by inclusion of a chart in the Final EIS that summarizes the different renewable energy technologies, clearly delineating technologies that are not suitable for large-scale centralized electricity generation (e.g., solar photovoltaics), technologies that can be operated on larger-scales but not on the scale of the proposed wind facility (e.g., biomass), technologies that are not yet ready for commercial operation in any significant measure (e.g,, tidal power), and technologies that can produce substantial power in other regions but not in New England (e.g., hydroelectric or concentrated solar). Such a chart could also highlight the alternative renewable technologies with significant negative environmental impacts including air emissions (e.g,, biomass) and habitat disruption (e.g,, hydroelectric power). While such factors are not determinative in the initial screening analysis – where the key question is whether the technology can serve the stated "purpose and need" – they nonetheless remain important pieces of information.

Additionally, the Final EIS should more clearly explain the major technological leaps that will be needed to accommodate wind turbines in substantially deeper and/or stormier waters. As documented in Section 3.4.2.2.10 and Appendix 3-F, the proposed Cape Wind Energy Project would be close to the cutting edge of current technology in terms of water depth and wave heights. A more detailed explanation of the factors that will need to be overcome in order to pursue wind development in deeper waters, however, would be helpful. Such an explanation would detail the engineering issues associated with the stress of stormier waters on the towers, the operation and maintenance issues raised by more remote locations, and the significant issue of increased distance that transmission lines would need to traverse and the potential need to make use of direct current ("DC") and/or advanced superconducting transmission infrastructures. The increased costs and dispatching implications for the power generated by such remote sites should also be developed.

The Final EIS should also provide updated information on wind resource mapping. The state of the art in this arena continues to advance and additional data that is in the public domain and/or is readily available from sources like the Massachusetts Renewable Energy Trust would buttress the analysis in the DEIS in this area.

The extensive location analysis in the DEIS that underlies the alternatives analysis provides some important insights worthy of mention. The assertions that the Massachusetts Military Reservation should be considered as a viable alternative to the proposed site (in the context of avian impacts as well as other questions) needs to be viewed both through the lens of the lower wind potential but also in terms of the plain statements from the military authorities who control that facility that wind development

at that site is not possible. See Appendix 3-L. The analysis of other locations provides strong evidence that the relative impacts of those sites are either greater or the feasibility is significantly lower in terms of meeting the project purpose and need.

3. Scope of state-level review process

As illustrated in the DEIS at Figure 7-1, the jurisdiction of Massachusetts agencies extends to the segments of the project that are overland and in state waters (up to 3 miles from shore). Thus, a portion of the submarine cable is subject to review by the Energy Facilities Siting Board (EFSB), the MEPA Office in the Executive Office of Environmental Affairs and the Massachusetts Department of Environmental Protection (DEP), among others. Installation, operation and maintenance of the wind turbines and the electric service platform will take place exclusively in federal waters and are not subject to state agency review. While Cape Wind has voluntarily submitted information about the entire project to MEPA to facilitate coordinated review, state permitting jurisdiction is limited to the segments of the project that affect Massachusetts land and waters: "The state permitting agencies … must base their permitting decisions and Section 61 Findings upon the portions of the project within Massachusetts." MEPA Scoping Cert. at 4-5.

It is also important to note that the MEPA process is *not* a permitting process. Rather, "it is a process designed to ensure public participation in the state environmental permitting process, to ensure that state permitting agencies have adequate information on which to base their permit decisions and their Section 61 Findings, and to ensure that potential environmental impacts are described fully and avoided, minimized, and mitigated to the maximum feasible extent." MEPA Scoping Cert. at 3. The key state agencies with permitting authority are the EFSB, which must issue a permit, and DEP, which must issue a Chapter 91 Waterways license to authorize placement of the underwater transmission cable. CLF concentrates its comments here on the Chapter 91 process.

a. Chapter 91 Waterways Licensing

Under the public trust doctrine, Massachusetts holds shorelands in trust for use by the public. *Boston Waterfront Dev. Corp. v. Commonwealth*, 378 Mass. 629, 631-32 (1979) (discussing history of the public trust doctrine). Generally, the Commonwealth's public trust authority and obligations are set out in M.G.L. c. 91. *Fafard v. Conservation Commission of Barnstable*, 432 Mass. 194, 200 (2000).[32] Chapter 91 does not bar development on public trust tidelands. Rather, it sets out a test for determining whether the development should be allowed. M.G.L. c. 91 § 2. If DEP determines that the use is water-dependent, then it is presumed to serve a proper public purpose and is authorized. Water-dependent uses are defined in the statute, M.G.L. c. 91 § 1, and in the waterways regulations, 310 CMR 9.00 *et. seq*.

[32] But these provisions are not "precisely coextensive with its authority and obligations under the public trust doctrine." *Id*. at 200.

The waterways regulations require DEP to determine that a use is water-dependent "upon a finding that said use requires direct access to or location in tidal or inland waters, and therefore cannot be located away from said waters." 310 CMR 9.12(2). Clearly, the transmission cable from the proposed Cape Wind Energy Project cannot be located wholly inland because it connects to an offshore wind energy facility located in federal waters. The core function of the underground cable is to transmit energy from an offshore facility to shore, by definition, a water-dependent use.

The cable also qualifies as water-dependent under a requirement that DEP must classify "any energy facility for which the proposed location has been approved by the Energy Facilities Siting Council" as a water-dependent use. 310 CMR 9.12(2)(c)(1). The term "energy facility" incorporates the term "infrastructure facility," which is defined as a "facility which produces, *delivers*, or otherwise provides electric … services to the public," *Id.* (emphasis added). This construct necessarily includes an electric transmission cable that *delivers* electricity from an offshore generating facility.

C. Comments on specific environmental impacts identified in the DEIS

In the following section, CLF has identified certain key issues associated with the environmental review of the Cape Wind Energy Project. These comments are not intended to be exhaustive. Other commentors with more particular interests in specific areas will comment on issues that particularly apply to those interests. CLF has chosen to focus on those areas of potential or actual environmental impact that we judge to be the most significant in the environmental review process: the aesthetic and visual impacts of the project and the potential impacts of the project in its interactions with avian species, marine mammals, and marine fish. CLF commends the Corps and the project proponents for providing a fairly exhaustive, comprehensive and accurate picture of the range of potential environmental impacts from the project and reasonable alternatives to the project. In many instances, the level of scrutiny in the environmental review exceeds comparable projects with similar profiles but far fewer environmental benefits than the Cape Wind Energy Project.

Having said that, there are some areas noted below where further data and analysis is required in order to provide decision-makers with an adequate factual base for permitting and other regulatory decisions. There are other areas where existing data is limited and there are no reasonable approaches that will allow a better understanding of the potential interactions between avian and marine biota with the project in a timely manner. In other instances, there is no theoretical basis for understanding the adjustments marine and avian species will make in response to the towers. Should the project move forward, management and regulatory activities would have to develop adaptive approaches to any problems that emerge after construction.

1. <u>Potential aesthetic and visual impacts</u>

One of the most controversial issues regarding the alternative location analysis is the question of aesthetic impacts. There is no question that the proposed wind facility will have major visual impacts, simply by virtue of the fact that its structures will be visible from shore and from numerous boats that travel Nantucket Sound. The key questions from an environmental review perspective, however, are whether the DEIS adequately assesses the project's visual impacts, how those visual impacts compare to the visual impacts of the alternatives considered, and, on balance, how the visual impacts of the preferred alternative should factor into the Corps' Section 10 public interest analysis.

The aesthetics of wind energy facilities are subjective and present open-ended debates. There is even dispute about whether this question can even be aired in this context. As then-EOEA Secretary Bob Durand noted in the MEPA Scoping Certificate for the project, "Whether the wind turbine generator array will be beautiful or ugly has been hotly debated, but such a subjective issue lies beyond the scope of the environmental review process." MEPA Scoping Cert. at 10. CLF believes that the aesthetics issue is a proper subject of environmental review but notes that the environmental review process is not charged with resolving this aesthetic debate, except to the degree that there is an underlying substantive statutory standard to be applied. The NEPA process and related environmental reviews do provide a venue where such impacts and issues can be rigorously, clearly and accurately aired.

An exception to the general conclusion that the environmental reviews cannot readily characterize visual impacts as "positive" or "negative" arises in connection with impacts on statutorily protected aesthetic resources or resource areas, including historic properties. To the extent that visual impacts "may affect the specific characteristic(s) of the property, such as location, setting, or use that resulted in a determination of eligibility for listing on the National Register…" DEIS at 5-198, a finding of adverse impacts may be appropriate. In the present case, the "Area of Potential Effect" for visual effects includes historic properties from which there are open views of the wind turbines or components of the facility. DEIS at 5-173.

The visual impact assessment for historic properties recommends adverse impact findings for two of three National Historic Landmarks (including the Kennedy Compound, Hyannis, MA), four of five historic districts, and ten of twelve individual historic properties examined. See table 5.10.5. A Programmatic Agreement (see DEIS at App. 5.10-G) is being developed to address measures to minimize or mitigate adverse visual effects on historic properties. Since the Section 10 permit for the project will contain conditions to ensure implementation of these mitigation measures, (DEIS at 5-211) a final version of the Programmatic agreement should be included in the Final EIS for the project.

Like the analysis of the proposed project, the visual assessment of each of the four alternative sites proceeded from viewpoints of historic properties. Consequently, the DEIS met the standard presented in MEPA Scoping Certificate for the project that "the visual impacts on historic resources will capture a good sense of the overall visual impacts of the project." MEPA Scoping Cert. at 10.

It is essential, however, that the visual impacts of the project be judged in the proper context, that is, in terms of comparison to other alternatives. In terms of landside visual impacts only the deeper water site alternative south of Tuckernuck Island would reduce visual impacts associated with the proposed project. The Nantucket Sound alternative would generate equivalent visual impacts as the proposed project on Horseshoe Shoals. See DEIS Figures 3-54 – 3-63. The remaining two alternatives would involve placing turbines closer to shore and therefore would create greater visual impacts than the proposed project. While the DEIS points out that the Massachusetts Military Reservation alternative is the only one that offers partial visual screening from mature vegetation and topography, DEIS at 3-202, the Sagamore bridge viewpoint, located 0.8 miles from the closest turbine, DEIS 3-100 & Figure 3-53, demonstrates a dramatic, close-up view of some of the wind turbines that would be seen by travelers coming onto Cape Cod. Similarly, the New Bedford viewpoint, located 0.9 mi from the closest turbine, DEIS 3-102 & Figure 3-64, illustrates that the New Bedford sub-site would be far more visible than the project at its proposed location.

The visual simulations included in the DEIS are consistent with the scoping requirements for the EIS/EIR and follow standard methodology for visual simulations. As noted in the DEIS, the visual simulations present a conservative, "worst case" (i.e., most visible) scenario because the simulations "were conducted using clear sky conditions that maximize visual contrast, at locations with little or no visual screening from topography or intervening vegetation available" and because the simulations "do not take into account factors such as the blocking effect of the curvature of the earth … or haze on the horizon." DEIS at 5-198. Nonetheless, it is apparent that the visual aspects of this project represent a significant negative environmental impact of this project to some people, regardless of where it is located.

2. Potential biological impacts

a. Avian impacts

The DEIS evaluates the potential avian risks of a wind power project proposed for several alternative sites within Nantucket Sound, with particular focus on Horseshoe Shoals. This part of southern Massachusetts is used by a large number of birds from a diversity of species (roseate terns and piping plovers), including sea birds that winter in Nantucket Sound, birds that migrate through Nantucket Sound, and two endangered species that use Nantucket Sound for their reproductive season (May-September). Because of this fact, the assessment of the potential risks to birds is critically important and presents a formidable challenge. Important issues and approaches to risk assessment were identified during the scoping period, with input from leading ornithologists, an avian risk assessment (Curry and Kerlinger, 2001- Appendix 5.7-A of the DEIS), U.S. Fish and Wildlife Service, and comment letters from MA Audubon (13 Dec 2001) and from CLF (5 April 2002). A general synthesis of this guidance from the scoping process is reflected in the Corps' *Scope of Work Notice* (June 2002).

The Corps and Cape Wind development team have put a substantial effort into addressing the extremely complex issue of avian risk assessment and the results of this effort are provided in the DEIS. This work is the leading compendium to date on avian activities in this region and is more exhaustive than any prior effort to understand the potential interactions between birds and development activities in southern Massachusetts. These materials are extensive and include 13 appendices, two of which specifically deal with wintering water birds, a total of three appendices dealing with birds during at least a portion of the winter period, and a radar study that examined flying birds during one month of spring and one month of fall migration. The analysis presented in the DEIS provides substantial new information on avian uses of the proposed project area, and Nantucket Sound more generally.

The analysis of potential avian impacts is further complicated by the experience at other wind turbine locations where some species have adapted their flight patterns and behaviors in the vicinity of similar wind turbines in ways that have reduced interactions between the species and the wind turbines. Theoretical calculations of risks based on current flight patterns, therefore, may overstate the "as-built" risks. CLF concludes, nevertheless, that further analysis is needed in the Final EIS to improve the characterization of potential bird mortality and allow an improved basis for sound decision making on this project.

A number of efforts have been made to synthesize the available information on experiences with wind turbine facilities and bird mortality from around the world (e.g. Everaert et al., 2002;[33] Report of the Convention on of European Wildlife and Natural Habitats on Wind Farms and Birds 2003; Winkelman 1995; NWCC, 2004[34]). Impacts vary substantially from species to species and from site to site. Well-sited wind facilities can have a very low impact on birds; less well-sited facilities may kill large numbers of birds and, depending upon the species, these impacts could be significant in the context of the cumulative impacts to populations and population viability. Some of the types of sites that have proven problematic are sites that are near shorelines, particularly where there is a high frequency of local flights for foraging, mating and transiting between roosting and other sites (e.g. Winkelman 1995; Everaert et al., 2002). Nantucket Sound is surrounded by shorelines of various types and is heavily used by birds, including endangered species, for local flights to and from a multitude of destinations. Given these characteristics of Nantucket Sound, and experiences elsewhere, particularly close attention to the potential impacts to birds is warranted.

i. General comments on avian mortality risks

Because birds in flight use the same airspace as the proposed wind turbines, the potential for mortality is clear. The proposed 130 wind turbines will create a "rotor-

[33] Everaert, J. 2004. Wind turbines and birds in Flanders: Preliminary study results and recommendations. Natuur Oriolus 69: 143-155

[34] NWCC (2004) Wind turbine interactions with birds and bats: a summary of research results and remaining questions - *Fact Sheet*: Second Edition. National Wind Coordinating Committee, 2004.

swept zone" through which birds will fly at various times of year and times of day, with varied speeds and paths, and at varied heights. Some uncertain proportion of the animals that attempt to fly through these zones will be killed. Determining the likelihood that a particular bird species will enter these rotor-swept zones is not simple, since flight behavior varies with many factors. The diverse numbers of bird species in the area have flight behavior that depends on many factors including weather, wind direction relative to flight direction, time of day and year, age, and the presence or absence of the turbines themselves. Even the task of producing good mortality estimates is challenging because it requires knowledge of a species' population size, an understanding of the specific role from turbine-induced mortality with respect to the cumulative impacts on the species from all mortality sources, and a weighing of the potential benefits to birds of substituting wind power for power generated with fossil fuels. At this stage in the development of wind power, our understanding of the interactions between birds and wind turbines is inexact and will be so for some time.

It is critical to bear in mind, however, that the fossil fuels that New Englanders and people who reside in the vicinity of the Cape Wind Energy Project are currently using to generate power – primarily coal and oil – also have a significant and well documented impact on birds directly and on the habitats used by birds and other wildlife. For example, the population of the sea bird that is most abundant in Nantucket Sound, the common eider, underwent a massive population crash in Massachusetts during World War II in response to an oil spill. (Burnett and Snyder 1954) Spills of oil being transported for power generation continue to be a major source of water bird mortality. For example, the *Bouchard No. 120* spill on April 27, 2003 in Buzzards Bay killed at least 450 protected birds and negatively impacted 90 miles of coastline.

The combined scale of this known source of mortality to avian species is orders of magnitude greater than any documented impact from a wind power facility. The mining of coal, acid precipitation, deposition of mercury and other metals, and global warming are all having serious impacts on forest habitat, breeding areas in the arctic, loss of estuarine habitat, and impacts to the aquatic life that serves as food for so many birds. Climate change will reliably alter whole ecosystems, eliminating resident and migratory bird populations that have been identified with New England throughout human history.

As discussed in the DEIS, wind turbine-induced bird mortality is usually small, and not sufficient to harm populations. For the sake of comparison, data combined for all of the U.S. indicates that mortality due to wind turbines is much less than that attributed to glass windows, domestic cats or hunting, each of which produces over a million bird deaths per year. In the cases where mortality is unusually high at wind facilities, it is due to some unfortunate aspect of the selected site.

Relatively high mortality in water birds has been observed in locations where turbines are situated in areas of high use, with lots of local flight activity (i.e. non-migratory flights; e.g. page 18 of Appendix 5.7-A). At a high use site near the Wadden Sea in the Netherlands, 14 to 50 bird deaths per year per turbine were observed, and most of these were water birds, including many sea ducks. (Winkelman, 1995) The present

project is proposed for an area that is heavily used by sea ducks and other birds, making high quality assessment of the risk important.

ii. Risks to roseate terns

Roseate terns are a federally endangered species that will have interactions with the Cape Wind Energy Project. The total species population is small, sub-populations of roseate terns breed at sites around Nantucket Sound and nearby Buzzard's Bay, and the entire North American population congregates in Nantucket Sound each year during migratory periods. Because there are potential roosting, staging, and feeding destinations in almost every direction from the proposed Cape Wind Energy Project site on Horseshoe Shoals, a number of these birds are likely to transit the proposed site frequently, and some of these transits may be through the rotor-swept zone of the proposed project.

The Final EIS should provide a better analysis of the likely interactions between the proposed project location and roseate terns, based on better estimates of the use of the preferred project area by these birds. Specifically, better analysis of data on tern flight altitudes and paths with respect to the project area is needed. In the absence of additional data, an improved risk analysis for the species may be able to be conducted based on known behavioral patterns. Much of the data presented in the DEIS is derived from survey methods that are relatively good for estimating abundance near the sea surface, but relatively weak for critically needed data on altitudes of flying birds. The Final EIS should provide analysis that would allow decision-makers to understand mortality risks and population viability risks based on credible estimates on the rates at which roseate terns might transit the proposed site at Horseshoe Shoals at altitudes high enough to be within the rotor-swept zone of the turbines. The critical time period for this particular analysis appears to be May to early June.

A second area of concern for potential impacts to roseate terns from this project stems from an absence of data on flight paths and altitudes for flocks of birds (1) departing in the fall for migration to South America and (2) returning to Nantucket Sound in the spring. Because there are management actions that can be taken to reduce or eliminate mortality risks during these concentrated periods of species concentration, i.e. temporary shut down of turbine operations, CLF believes that this information should be developed before operations commence in the event the project is successfully permitted. The protocol for doing so should be developed and identified in the Final EIS and made a binding condition of any permit issued for the project.

Finally, CLF is concerned that the roseate tern population viability analysis presented in the DEIS extrapolates population growth from a period of time in the past when the population was increasing at a rate that does not appear to have prevailed in recent years. In the Final EIS, the population viability analysis should reflect guidance from experts on this species, including those who have conducted field studies of these birds.

As noted above, the impacts of this project on roseate terns must also include the positive impacts that wind-powered energy production may have on roseate terms. Because the project will displace energy production that uses oil as a fuel, the project will reduce the known mortalities of these same species from oil spills. Estimates of oil-spill-induced mortalities in roseate terns should be included in the Final EIS. Moreover, if this project helps contribute to the larger strategy of reducing greenhouse gas emissions and slowing the consequences of climate change, this project will be helping to protect critical habitats of the roseate terns that will otherwise be virtually eliminated in Nantucket Sound by sea level rise, sea and air temperature shifts and prey shifts.

iii. Risks to sea ducks

The DEIS provides strong documentation of the well-known importance of the Nantucket Sound area for wintering sea ducks, including common eiders, long-tailed ducks and scoters (November to March). Combined, the number of sea ducks in the vicinity of the project site on Horseshoe Shoals may be near a million birds.

While the populations of these ducks are large with all the species subjected to recreational hunting, these species will also be killed by turbine blade strikes if the project is permitted. Better estimates are needed in the Final EIS of what these mortalities might be and when they might be expected to occur in order to allow decision-makers to reach reasonable conclusions with respect to the benefits and costs of the project. Improved data of these risks would also improve the ability to develop appropriate monitoring and mitigation measures for these species.

The long-tailed ducks are of particular concern as they are well known to make flights to and from external shoals from resting sites on the water in Nantucket Sound during darkness. They are also known to occasionally make flights high into the sky, ascending vertically from the sea surface. (Forbush, 1925) These flights have not been studied for the DEIS, and it is therefore difficult to relate their behavior to the rotor-swept zone of the project. A better analysis of the use of the intended rotor swept zone by sea ducks should be developed in the Final EIS and used as the basis of an improved estimate of expected mortality. Specifically, more information on duck flight behavior in and around Horseshoe Shoals during the winter period, when ducks fly to and from feeding areas in the dark, particularly an understanding of the near-darkness flight numbers, altitudes and paths, is important. This information and analysis is important to estimating potential risks for sea-ducks.

Since the behaviors of long-tailed ducks suggest that there is a mortality risk from the wind project, it is reasonable to consider how this mortality risk compares to estimates of this species' population size. The Final EIS should analyze this based on better data on the winter flights of this species, especially during the low-light and nighttime hours. This mortality estimate must then be related to the population estimate for long-tailed ducks for Nantucket Sound, which is approximately 180,000, based on the DEIS. The estimated mortality risk must also be evaluated against the numbers of long-tailed ducks that are killed in the NW Atlantic region annually by recreational hunters

(i.e. about 10,000). Turbine mortality estimates would need to be factored into the cumulative impacts to this population, but CLF has no reason to believe these mortality rates would jeopardize duck populations. Moreover, because the project will displace energy production that uses oil as a fuel, the project will reduce the known mortalities of these same species from oil spills. Estimates of oil spill-induced mortalities in sea ducks should be included in the Final EIS.

iv. Risks to migrating birds

The Final EIS should develop a more robust analysis of spring and fall bird migrations through the project area. Large numbers of land and water birds migrate through this portion of southern New England, including birds traveling to and from boreal forests of the north and the Arctic. At present, the DEIS suggests that hundreds of thousands of birds may pass through the intended rotor-swept zone of the project area on Horseshoe Shoals. The radar studies are too limited in their temporal scope, however, and the analysis of the existing radar data with respect to migratory bird migration could be improved. Higher quality radar analysis in the Final EIS would allow for the needed improvements in the evaluation of roseate tern and sea duck behavior, and would allow a more complete assessment of the uses of the rotor-swept zone by migrating birds during the fall and spring.

v. Construction design considerations

Design features for the underwater portion of the monopoles must take into account that increasing the abundance of fishes around the turbines could increase the mortality of fish-eating birds attracted to the site by an increased abundance of fish. The foundation system for the monopoles should minimize increases in available cover for fishes (e.g., spaces between rocks, or other supporting structures) since such increases in fish habitat will increase fish abundance and attract fish-eating birds. A well-designed monitoring protocol could produce the data needed to evaluate this issue.

vi. Avian monitoring and mitigation

The interaction of birds and turbines is complex and is determined by many factors including the presence of the turbine structures themselves. Under many circumstances, birds seem to avoid turbines, thus reducing risks significantly below that which might be predicted on the assumption that flight behavior in the intended project area will remain unchanged once the turbines are in place. Under other circumstances birds may be attracted to turbines, or at least be unable to avoid them. The task of determining what percentage of a bird species passing through a rotor-swept zone would in fact collide with a turbine blade is even more of a speculative enterprise and is the subject of disagreement and controversy amongst experts.

For these reasons, it is imperative that a strong plan for rigorous monitoring of bird mortality be developed if the Cape Wind Energy Project is permitted. The monitoring proposal in the DEIS is not strong enough. Data from effective monitoring

should be used to guide mitigation measures, and as a critical input to a responsible program for adaptive management during the life of the project.

Since experience with offshore wind is non-existent in this geographic region, careful thought must be given to experimental approaches that will allow the development of valid monitoring of avian impacts and mitigation measures. An independent scientific advisory team should be assembled to develop and oversee this program. The team should include individuals with experience studying impacts at the wind facilities that have been in operation for some years in Europe.

Methods for accurately sampling animals killed by impact at turbines, for rapid data analysis, and for use of that data to guide management must also be included, with particular attention to the challenge of data collection at the turbines during operation. Plans should include the testing and validation of a range of complimentary data collection approaches with particular focus on the difficult problem of reliable recording of mortality at offshore locations. Data collected from this public resource area should be made available to the public via the web.

b. Noise impacts

The presentation of information on acoustics, in Section 5.11 and in the various other sections where potential noise impacts are considered, should be improved in the Final EIS. It is strongly recommended that the Corps make reference to other analyses that have dealt with the complex issues surrounding ocean acoustics and impacts of construction sounds, including, for example, the EIS and associated technical reports from the Alaskan Northstar Project of BP Exploration, Inc. and the OEIS for the LFA program of the U.S. Navy. In the Cape Wind Energy Project DEIS, there is an over-emphasis on human hearing. The treatment of underwater acoustics and the biological impacts of underwater sounds should be improved. The discussion of acoustics in the Final EIS should not be dominated by measurement approaches that are suited to studies of human hearing, should avoid human perceptual terms such as *loudness* (Section 5.1.1), and should use physical descriptions that are appropriate to bioacoustics broadly - intensity, energy flux density and pressure.

Energy and intensity are very important measures when considering impacts on marine animals. Maximum pressure (Lmax as stated in the DEIS) and equivalent pressure (Leq as stated in the DEIS) do not provide a complete description. Section 5.11.2.1.

In each section of the Final EIS, the reference being used for the deci-Bell scale should be consistently indicated. In addition, information on analysis bandwidth should be provided in the discussions of potential acoustic impacts. According to the appendices, all analyses and modeling were done assuming that a human auditory system was most relevant, even under water (i.e. 80 Hz to 20 kHz). *Noise Report,* Appendix 5.11A. However, the Final EIS should evaluate potential impacts to great whales and fishes for which very low-frequency sounds are particularly important, and to dolphins and bats which rely on hearing in the ultrasonic range, well outside of the human hearing

range. Consequently, the anthropocentric acoustic characterizations in the DEIS are inappropriate and do not allow one to gauge the full range of potential impacts of the project on animals likely to be exposed to noise from the project.

The Final EIS should clearly indicate the frequency bandwidth in any discussion of sounds. When discussing potential impacts to animals, a description of the animal's auditory threshold (i.e. its audiogram) should be provided and the discussion should make it clear how the acoustic signals, whether from field measurements or modeling, relate to the hearing abilities of the animal, including bandwidth and thresholds. If data are not available for the particular species of concern, this needs to be made clear, and a justifiable surrogate species should be selected. Specific areas where the DEIS is weak include ultrasonic frequencies in air (see comments on bats) and ultrasonic frequencies underwater (see comments on protected marine species – dolphins in particular).

i. Atmospheric acoustics

In the Final EIS, the acoustic characterization of the wind turbines should include the ultrasonic range in which the auditory sensitivities of endemic bat species are highest. There is evidence that wind turbines can be a mortality source in bats (e.g. Scientific American, February 2004), and while it is not yet understood why these animals collide with turbines, one of the hypotheses is that the turbines are generating ultrasonic sounds that may be attractive to bats, or may interfere with the bat's sonar system. This type of risk could be quickly ruled out if it where demonstrated that the turbines are not ultrasonic sources. A great deal is known about the auditory sensitivity of bats, and this should be used to define the range of frequencies examined in the EIS. In the Final EIS, characterization of sounds produced during the operation of turbines should include frequencies out to 120 kHz. Turbines should be equipped with wind sensors that are not based on acoustic Doppler shift technology unless it is rigorously demonstrated that this technology does not impact any of the relevant species. Additional discussion of this topic is set forth below under our comments on bats.

ii. Underwater acoustics

The treatment of underwater sound in the DEIS needs improvement. The characteristics of the various underwater sounds expected during construction and operation of the facility are of particular importance for understanding the potential sound impacts on marine mammals. Well-developed recording and analysis methods are readily available for the characterization and quantification of underwater sound. However, in the DEIS, there is over-reliance on questionable acoustic models for predicting sound fields. The Final EIS should include better acoustic characterization of the site based on actual recordings and should include plans for on-site underwater recording during construction. For example, the DEIS characterizes sounds generated by jet plows based on subjective reports from human divers. Section 5.11.2.6 - Construction Impacts. This analysis should be improved for the Final EIS with existing data from field recordings, including calibrated sound spectra showing the acoustic signals generated by jet plowing, pile driving, and the steady sate operation of the marine-based wind turbines. These

should be based on sounds recorded with hydrophones, and include analysis bandwidths relevant to the various marine life being considered. It is likely that such data are available.

The animals of primary concern for underwater acoustic impacts are those whose auditory systems are adapted to underwater life, not humans. The most serious category of potential noise impacts is that caused by *pile-driving* during an estimated construction period of 8 months. Section 5.1.1.1.6.1. These noises can pose a potential risk to the hearing and navigation of marine mammals and sea turtles. Such intense, broadband sounds certainly pose a risk of behavioral avoidance of the area. The DEIS fails to include considerations of the impact these responses might have on survivorship and reproductive success. The Final EIS should provide sound levels expected closer than 500 meters and should indicate the analysis bandwidth.

The analysis of pile driving sounds in the DEIS (Tables, pp 166-167) appears to be based on predictions derived from spherical spreading models (TL = 20 Log R), assuming a source level of 204 dB. The use of this kind of model in a shallow water environment like Horseshoe Shoals may not be justified and could lead to inadvertent exposure of marine life to dangerously intense sounds. There are now reasonably good, empirically validated models for shallow water sound propagation in the frequency range of interest here (<1000 Hz) in similar habitat types. Use of appropriate models will be essential when estimating the ranges out to which a noise from project activity will remain above some level of concern. Nevertheless, real-time on-site data from an array of hydrophones should be used for monitoring so that modeling errors will not lead to unacceptable noise exposures during construction.

Information on source levels (i.e. at 1 meter, 10 and 100 meters) should be added along with analysis bandwidth, and information on the auditory sensitivity of marine mammals and turtles. Even based on the current modeling in the DEIS (Figure 40, Appendix 5-11A), sounds in the 100 Hz to 1.0 kHz band will clearly be above the NOAA Fisheries threshold specified for risk to the hearing of marine animals at distances less than 500 m. In the Final EIS, the concept of thresholds for hearing risks to marine animals should be made more sophisticated by considering acceptable intensities within a range of bandwidths that are chosen based on the hearing of various species using the area. This should include a safety limit within the ultrasonic range used by dolphins. The Final EIS must include a more detailed and realistic plan for ensuring that these intense impact sounds are not produced when there are marine mammals or turtles within the 500 m *safety radius* (see additional comments under marine mammals).

In the DEIS, the definition of the safety radius rests on a 180 dB (re 1.0 μPa) threshold for injury. It is stated that 180 dB is "generally thought to be the threshold level for preventing injury in marine mammals in sea turtles," with a reference to a letter from Patricia Kurkal, Regional Director of NOAA Fisheries. The Final EIS should include more discussion of what this 180 dB guideline means, where it comes from, and how it is meant to be applied to a range of marine mammals with vastly different hearing

ranges. It must be indicated what bandwidth is associated with this criterion, and what sort of integration time is intended when measurements are made.

iii. Acoustic monitoring protocols

There is a risk of auditory harassment and hearing damage to marine animals during the proposed eight month construction period. A simple, distributed network of underwater acoustic monitoring stations should be in operation throughout construction, operation and decommission phases of the project. This network should at least be used for three functions: (1) to increase the probability of detecting and identifying marine mammals in the area, (2) to monitor acoustic signal strength due to pile driving and (3) to halt operations if sound levels exceed thresholds at the perimeter of the safety radius (see below), or if rare or endangered marine species enter the area.

The Final EIS should include viable mechanisms to monitor for acoustic events that might put animals at risk and should identify an effective mechanism in place to mitigate should the monitoring system detect/predict the approach of an unacceptable level of risk. This risk assessment could logically be divided into subgroups as a function of the group members' auditory, physiological and behavioral parameters. Thus, for example, we already know enough about cetaceans to cluster them into groups that are low-frequency (< 1000Hz) and higher frequency (< 2-30 kHz) specialists, and we know about the likelihoods of occurrence for the species of concern. Sea turtles are in the low-frequency group and so are fishes. Pinnipeds would be in the higher frequency group.

The proposed monitoring system for sound level measurements proposed in the DEIS needs improvement in the Final EIS in order to adequately describe the spectral content of the sound field generated by the project's activities. The stated drops in RL for the European site do not give enough detail to allow proper interpretation. Furthermore, there must be a more serious effort to implement an adequate underwater acoustic monitoring system. This can be done using existing technology and will provide near-real-time data as part of the overall sensor system for monitoring. For example, the BP Northstar Project used hydrophones with seafloor recorders to monitor during periods of potential high impact. A system like this would probably be appropriate here. Such a system should provide feedback when hearing damage thresholds are exceeded with the safety zone, and guidance for an acoustic schedule for the "soft-start" plan for pile driving.

Underwater, hydrophone-based acoustic alert systems have been developed for detection of sounds made by whales and should be considered as part of the plan for monitoring for the presence of whales during construction. These systems can also be used to detect sound-producing fishes, and may be an aid to detecting breeding aggregations of fish. Plans for this type of monitoring should be developed in consultation with experts at NOAA Fisheries and appropriate science advisors.

The monitoring plan must also be improved to provide data on potential impacts while the facility is in operation for use in adaptive management responses.

iv. Safety radius (500 m)

The DEIS proposes use of a *safety radius* of 500 m to protect marine mammals and sea turtles during construction. Section 5.5.5.1.1. The area of the safety radius, about 1/3 of a square mile, is substantial. The Final EIS should develop more effective controls to ensure that the safety radius for noise exposure will be *safe* by including a strong plan for monitoring for animals of interest approaching and within this radius, as well as proposing a strong mitigation response once an animal comes within the safety exclusion zone. The DEIS indicates that one qualified NMFS observer will be stationed at the site during construction to monitor for marine animals of concern within the 500 m perimeter of pile driving sites. Depending on the scale of construction activities at any one time, this observation plan should be augmented by more on-site spotters in conjunction with the underwater acoustic monitoring system described above. This approach would allow for the early detection of marine mammal sounds (particularly of engendered species) and for monitoring the intensity of the sounds produced by construction activities (e.g., pile driving, vessel traffic). Any permits should be conditioned with a strong mitigation protocol for ensuring that intense noise production is halted immediately if and when these animals enter the radius. This protocol would include a number of modeling exercises predicting the potential exposures and risks to a representative suite of animals (mysticetes, odontocetes, pinnipeds, sea turtles and fishes). Such procedures have become standard components of Final EIS documents in which noise impacts are of concern.

The Final EIS should also discuss the benefits of the scheduling of pile driving with respect to periods of off-peak use by marine mammals and turtles. Pile driving should be scheduled only during time periods when the probability of marine mammals and sea turtles in the area is low. Data from NOAA Fisheries and other sources should be used to examine questions about scheduling and seasonal use of the area by marine animals.

c. Potential impacts to bats

The Final EIS should improve the analysis of the potential impacts to bats (DEIS Section 5.6.3.3) at the proposed Nantucket Sound site, particularly since there is no field data included in the document for the Nantucket Sound site, or any of the alternatives. The DEIS does include a reasonable summary of the ecology of the bats of the New England area, based on secondary sources. None of the bats expected in the area are federally listed as endangered species.

The potential impacts of the proposed wind turbine facility to bats should be considered carefully for several reasons. First, there are seven species of bats known in this part of southern New England, and at least one of these – the red bat – is known to make significant migratory flights, sometimes over coastal waters. Bats are nocturnal mammals that feed and migrate in flight, sometimes using the same airspace as wind turbines. Second, there are well-documented cases of mortality in bats caused by wind turbines at terrestrial sites (e.g. Scientific American, February 2004), with mortality as

high as approximately 43 bats/MW/year at sites in Eastern U.S. (NWCC 2004).[35] Mortality tends to be particularly high in red and hoary bats, both common in southern New England. Mortality is quite variable among sites that have been studied, suggesting that impacts are dependent upon the particular site and its role in the ecology of bats.

There has been too limited a characterization of any of the alternative sites for this project to allow any conclusions as to the specific risks posed by this project to bats, and there are no known migratory patterns over the proposed Horseshoe Shoal site, although it is likely that there is some transit activity. There are also a number of significant unknowns with respect to scientific understanding about the reasons for the known mortalities associated with bats and wind turbines. Further field studies at the site may not yield fully usable data because the presence of bats in the area, prior to erection of turbines does not necessarily mean that the bats would be impacted by turbines, and, conversely, the absence of bats in the area does not necessarily mean that bats might not be attracted to the area or killed by turbine blades once the turbines were erected.

While it is not known why bats collide with wind turbines, it is known that bats use a highly developed sonar system during their nighttime flying. Bats emit ultrasonic calls (30-80 kHz), and form images of their surroundings by analyzing the characteristics of sounds that return from their surroundings in the form of echoes. It is possible that mortality is due to some kind of failure of this system. Perhaps the echolocation system does not detect the turbines for some reason. If the turbines themselves produce ultrasonic sounds, this could result in interference (i.e. jamming) or be attractive to the bats. Unfortunately, the acoustics analysis in the DEIS (Section 5.11, and Appendix 5.11A) presently does not characterize sounds produced by turbines at frequencies in the ultrasonic range (i.e. above 20 kHz). The Final EIS should include these data so that one could evaluate the possibility that operating sounds produced by the turbines might contribute to bat mortality. In the description of the nacelle (Section 4.1.1.1), for example, it is indicated that a wind sensor will be included, yet no details are provided on the mechanism are provided. Wind turbines are often equipped with acoustic Doppler anemometers and the sounds produced could be audible to bats depending upon the frequencies employed. Since bats use sounds for echolocation and for communication with other bats, such ultrasounds produced by the towers may need to be eliminated to reduce impacts to bats.

CLF's view on this issue at this time is that the Final EIS must include a thorough characterization of the acoustic signals measured in air while wind turbines of the type to be used are in operation, including sounds in the ultrasonic range from 20 to 120 kHz. There should be existing field data on this issue. If the wind turbines require wind sensors or other active sensors, they should be based on technology that does not require production of sounds that are audible to bats. Acoustic Doppler anemometers should not

[35] Williams, W (2004) When blade meets bat unexpected bat kills threaten future wind farms. Scientific American, February, pp 20-21; NWCC (2004) Wind turbine interactions with birds and bats: a summary of research results and remaining questions - Fact Sheet: Second Edition. National Wind Coordinating Committee, 2004.

be used on the wind turbines. If they are essential, they should be placed outside the perimeter of the facility, on towers that do not have rotor blades.

The monitoring program described in the Final EIS should also require data collection at a number of test turbines distributed throughout the project area to characterize the interactions of bats with turbines at this site. Since bats, like most animals, exhibit distinct seasonal behavioral patterns, the above quantifications would need to be done during all seasons. In order to have confidence that data collected in a particular season on a given year, at least several replications of data collection would need to be done over a succession of years.

d. Potential impacts to fish and other marine life

CLF does not expect this project to have significant adverse environmental effects to most species of fish or crustaceans present in Nantucket Sound. There are several issues where the analysis in the DEIS can be improved and where construction protocols and monitoring measures are needed to avoid potential adverse impacts.

i. Construction and spawning periods

The proposed jet plow and horizontal directional drilling methods for bringing the submarine cables to the shore will cause disturbance to the bottom and some increased amount of sedimentation. Since sedimentation is known to increase mortality for fish eggs, these activities should be timed to avoid known spawning periods and to avoid spawning habitats. As well, the creation of trenches for the submarine cables can have a negative impact on the migratory patters of some species. For example, the existence of trenches on the sea bottom may impede the seasonal migration of lobsters from offshore to inshore waters and back. The Final EIS should include information on spawning and migration periods and locations after consultations with NOAA Fisheries and the Massachusetts Division of Marine Fisheries, and propose a work schedule that will minimize impacts to reproduction and migration of fishes, crustaceans and other marine life.

Efforts should also be made in bringing the submarine cables to shore to minimize direct and indirect impacts on submerged aquatic vegetation ("SAV"). The DEIS does a good job of characterizing the mapped location of existing beds of SAV and the permits should be conditioned on requiring the submarine cable contractor to use divers and other approaches to bringing the cable ashore to minimize any SAV losses as the actual route is laid down.

ii. Electromagnetic fields ("EMFs") and marine life

The DEIS properly documents that the Nantucket Sound site is frequented by a number of elasmobranch fishes (i.e. sharks and rays), and that NOAA Fisheries considers the area essential fish habitat for four species. Table 3-15b. As noted in the section of the DEIS dealing with electromagnetic fields (Section 5.13), these fishes are known to be

exceptionally sensitive to low frequency electric fields (i.e. in the nV/cm range), and, indirectly, to magnetic fields due to induced currents. The section dealing with this potential interaction in the DEIS needs to be expanded to include a more complete recognition of the role of weak fields in the feeding and orientation biology of these animals and to recognize the possibility that artificial fields from cables could impact these animals. The effects of electric fields on those aquatic animals that have evolved electrosensory systems are profound and have been studied extensively. Information on the known detection thresholds should be included and related to the EMFs expected near the sea floor. These data should be included in the table on biological processes. Table 5.13-9.

While it is correct that the biological electroreceptors are most sensitive to near direct current, or "DC," fields, like most sensors, they have a sensitivity curve that yields responses over a range of frequencies including 60 Hz. Data should be provided in the Final EIS that estimates the magnitude of the electric field near the buried cables and the spectrum of the electric field. While the fields generated are nominally 60 Hz, it is unlikely that the spectrum of the fields will be pure, and possible that there may, in fact, be DC components present. DC fields could result from galvanic fields associated with shielding or other materials in contact with the sea water.

Though a number of reasonable precautions have been taken to reduce the strength of EMFs in the sea water, they will not be eliminated and their actual characteristics will not be fully known until the system is in operation. The most probable influence of the weak EMFs is to cause some disorientation during feeding or navigation. Artificial EMFs can result in misguided feeding attempts in elasmobranch fishes. Animals migrating in the water (not in the air above) could also be disoriented by perturbation of the earth's magnetic field. Other marine animals may also use the magnetic field for orientation. See Section 5.13.1.5.

The monitoring plan should include provisions for identification of both types of potential impacts, and plans for mitigation if the impacts are severe. Since the magnitude of the electric field drops exponentially with distance, structures that prevented marine life from approaching too close to the buried cable could solve these problems (e.g. a mound of gravel).

e. <u>Other issues</u>

The characterization of the geophysical and oceanographic conditions at the project site appears to be comprehensive, and the conclusion that the project will not have significant impacts on these conditions is well-reasoned and supported in the record. Issues with sediments suspended during the construction do seem more likely to be short-term and moderate to insignificant in most cases, particularly offshore. The chemical sampling does not indicate significant presence of chemical constituents that would present exposure risks to marine organisms. The DEIS relies heavily on sediment transport models to conclude that "the majority of disturbed sediments are expected to settle and refill cable trenches and areas immediately surrounding the trenches shortly

after installation (generally minutes to less than one hour…)." DEIS 5-18. However, even this model – which is based on assumptions of constant tidal currents and bathymetry (see App. 5.2-C) – predicts that there will be variation in transport across the project area with the highest levels of transport being in the shallow areas of the Sound and with "little potential for sediment transport along the deeper portions of the shoal, especially the east side." DEIS 5-9.

The proposal to use anchored scour mats to address potential scouring and artificial habitat creation around the tower bases is innovative and appropriate. The Final EIS and any permits issued for this project should require post-construction inspection/monitoring of these mats over time, as well as a requirement to replace them with appropriate rip-rap if significant scouring occurs. In light of the uncertainties associated with sediment transportation in the project area and in Lewis Bay, CLF recommends that post-construction monitoring and remediation be required where necessary.

3. Recommendations regarding monitoring protocols and adaptive management practices

As stated above in reference to particular sections of the DEIS, a number of improvements can and should be made to the DEIS using existing or readily collectable data and analytical tools and approaches. To the degree these suggestions are pursued rigorously, CLF is hopeful that the Final EIS will be a responsible document on which the necessary federal decisions can be made.

At the same time, there is no escaping the reality that marine wind turbine facilities are an emerging technology and that the ecological information and modeling necessary to understand and manage the environmental impacts with projects like the Cape Wind Energy Project are still underdeveloped. The information available for the preferred site at Nantucket Sound indicates that the ecological impacts of the project could be relatively small. At the same time, there are a number of unknowns with respect to important marine and avian species and how they will interact with the project infrastructure. Substantial uncertainty with respect to a full characterization of all the reasonably expected environmental impacts from this project will remain, even after construction.

As a result, CLF believes that a properly conceived and well-designed environmental monitoring program will be critical to the success of this project. Such a program should be developed and described in the Final EIS before any permits are issued.[36]

[36] While CLF expects that the monitoring protocols for this program will continue to develop over time as experience with this and other wind turbine projects is gained, a core program should be prepared at this time in order to insure that construction and operation of the project sets a positive precedent for offshore wind energy.

In coming to this understanding of the function and value of such an approach to the inherent project uncertainties with the Cape Wind Energy Project, CLF looked to other projects that presented clear environmental benefits on balance but where environmental impacts could not be fully anticipated or understood prior to construction. A prime example of such an approach in the New England region was the siting of the new outfall for the Deer Island sewage treatment facility, where new discharges of substantial quantities of freshwater and treated effluent were introduced for the first time offshore into Massachusetts Bay. An outfall monitoring protocol and Science Advisory Panel was established and overseen by the two permitting agencies overseeing that project, the U.S. Environmental Protection Agency and the Massachusetts Department of Environmental Protection. This monitoring program and oversight committee has provided a unique and objective approach to monitoring that project which might provide a useful template with regard to this project.[37]

Monitoring for the Cape Wind Energy Project should produce credible information of sufficient scale to insure compliance with permit conditions, to minimize environmental impacts through adaptive management, and to improve planning and siting of future wind power projects. The Final EIS should be used to launch the development of such a monitoring regime by providing, as best as can be done at this stage, a delineation of specific adaptive responses that could be implemented to deal with environmental impacts that are judged to be reasonable possibilities at the chosen site. Such impacts might include, for example, impacts to a particular bird species, where the mortality rate is found to be sufficiently high to pose a threat to the population. Potential adaptive responses should include the option of short-term shut-downs if it is determined that a shut-down within a particular time window could substantially reduce population-level impacts. A reasonable budget for annual number of days allocated for possible use in such rare situations where a shut-down response is appropriate (e.g. a finite and defined number of days maximum per year) should be established, and utilized, if necessary, with guidance from the science advisory board and data collected under the monitoring program.

A program of environmental monitoring and adaptive management should be developed with the benefit of a third party scientific advisory board, perhaps modeled on the Massachusetts Water Resources Authority Outfall Monitoring Science Advisory Panel. Such a panel should draw on academic, private, and government scientists to help develop an appropriate set of protocols for data collection and adaptive responses to unacceptable environmental impacts.

While costs of developing basic data collection and analysis should be considered to be part of the operating expense of the Cape Wind Energy Project, the data collected will be of tremendous value to many industry, governmental and other stakeholders. In order to generate the full range of useful information and to insure the credibility of the data collected, it would be appropriate to draw on financial resources of private, public and quasi-public organizations to put in place a monitoring infrastructure that Cape Wind alone could not afford to put into place. Such funds for data collection and analysis

[37] Information on the Outfall Monitoring Program can be found at http://www.epa.gov/region01/omsap/.

should be administered through the science advisory board to ensure that data collection is objective and transparent. All environmental data collected from this project, sited on a public resource, must be made available to the public, in electronic form, in a real-time fashion when possible or with a minimal delay when necessary for data processing.

With respect to the monitoring program, the Final EIS should specifically develop the following protocols, broken down by project phases into construction, monitoring and adaptive management during wind farm operation.

a. Construction phase

The following elements need to be incorporated into the monitoring program during the construction period if the Cape Wind project is permitted:

- With regard to protected marine species (whales, dolphins, sea turtles) it is both important and feasible to ensure that these species are not adversely impacted by intense sounds produced under water during construction through simple monitoring and adaptive responses to avoid and mitigate such impacts. An automated acoustic warning system for whales, based on their vocalizations, should be implemented in consultation with experts at NMFS, and science advisors as appropriate. Real-time acoustical monitoring of impact sounds during construction should be implemented to reduce or eliminate the risk of injury to protected marine species. Based on the current modeling in the DEIS (Figure 40, Appendix 5-11A), sounds in the 100 Hz to 1.0 kHz band will clearly be above the NMFS threshold specified for risk to the hearing of marine animals at distances less than 500 m. This system should be operated throughout the construction phase, not just during the startup of installation.

- With regard to flying animals, Cape Wind needs to continue to gather data for the improved quantification of the risk of mortality to flying animals. These data must include the frequency, heights and the seasonal patterns and timing of transits by those species of the project site. This data need is particularly critical for wintering sea ducks, terns (specifically roseate terns) and migrating birds because of the lingering issues regarding those species during key seasons. Such data will be critical for regulatory oversight as well as for the development of avoidance and mitigation strategies for the project.

- With regard to fish, crustaceans and other marine life, spawning and migration activities and locations of key species must be monitored and coordinated with NOAA Fisheries and the Division of Marine Fisheries to ensure that submarine cable installation activities do not disrupt spawning and migratory activities.

b. Monitoring and adaptive management during wind farm operation

A carefully planned program of ongoing data acquisition (i.e. monitoring) and adaptive management of the wind farm should be developed and included in the Final EIS, including innovative approaches to sampling so that reliable estimates of environmental impacts can be made during turbine operation.

- With regard to birds and bats, the monitoring program must be capable of measuring species-specific mortality rates for birds and bats flying in the rotor-swept zone. Even with the fully developed pre-construction analysis based on observations in the project area and throughout Nantucket Sound, uncertainty will inevitably persist about the potential avian impacts that will occur if turbines are placed in the Sound. The interaction of birds and turbines is complex, and is determined by many factors including the presence of the turbines. Under many circumstances, birds avoid turbines, thus reducing risks way below that which might be predicted on the assumption that flight behavior in the intended project area will remain unchanged once the turbines are in place. Under other circumstances birds may be attracted to turbines, or at least unable to avoid them.

  For these reasons, it is imperative that a strong plan for rigorous monitoring of bird and bat mortality be developed with the guidance of a range of competent scientists. The monitoring proposal in the DEIS is not strong enough. Data from effective monitoring should be used to guide mitigation measures, and as a critical input to a responsible program for adaptive management.

  The monitoring program should be expanded to include two phases of post-construction monitoring. Phase I should be a period of relatively intensive monitoring during the first five years of the project. During this period, the ecological impacts to birds and bats should be quantified, any unacceptably high impacts identified, and mitigation measures developed and implemented, as needed. The monitoring program should be designed with a number of specific objectives but must also be designed in such a fashion as to increase the likelihood of detecting effects that have not been anticipated through monitoring an array of ecological indicators. The data and protocols developed during phase I should be used to set the objectives for long-term monitoring conducted during phase II, with guidance from the scientific advisory board.

  Protocols used during phase II must be adequate to detect changes in steady state impacts, and provide the information needed for adaptive responses. For example, there may be a particular time window each year when some form of biological impact was demonstrated to be unacceptably high during phase I. Should this be the case, phase II monitoring, and adaptive management, should include protocols for reducing impact during a specific time window defined by ecological or behavioral criteria.

  The essential objective for this bird and bat monitoring program is to quantify the species-specific mortality rates for flying animals in the rotor-swept zone. The Final EIS must include a solid plan for the use of scientifically sound methods for

reliably estimating the mortality rates for flying animals at all times of year and at all times of day and night. This will be challenging due the offshore nature of the project, and will require development and testing to identify reliable sampling protocols. The precise contours of the plan should arise from the efforts of the science advisory board. The effectiveness of these sampling methods should be validated.

To make this possible, individual turbines might be equipped with small radar systems that monitor incoming and outgoing bird or bat traffic and/or centralized radar data collection might be employed if such can be done effectively. Alternative technologies such as video, infrared imaging and impact triggered photography should be also explored. Acoustic methods for monitoring impacts to turbine blades should also be considered.

- With regard to marine mammals and sea turtles, a behavioral sampling protocol must be developed to examine the behavior of marine mammals as they navigate through the project area. This part of the monitoring program should be designed to detect aberrant behavior such as collisions with towers, disorientation in and around the farm or increased stranding rates within Nantucket Sound. Monitoring should be carried out in a coordinated fashion with other ongoing marine mammal monitoring (e.g. NOAA Fisheries) during phase I.

- With regard to fish, crustaceans and other marine life in the vicinity of the Cape Wind Energy Project, the monitoring plan must include a program of field observations within the wind turbine site and at background comparison sites that will detect unanticipated effects on marine life. Particular attention should be given to species composition and abundance in and around turbines, and to the behavior of electro-sensitive fishes near buried cables. This program should include a component directed at assessment of impacts in the near shore region along the cable route to shore. Design features for the underwater portion of the monopoles must take into account that increasing the abundance of fishes around the turbines could increase the mortality of fish-eating birds. Additionally, this issue must be addressed by monitoring to evaluate whether this becomes an issue and, if so, how it should be addressed.

- With regard to the benthic habitats disturbed or altered by the project, a program for assessment of the benthic communities, including both flora and fauna, within the project area must be developed. This will require a series of monitoring sites in the project area and habitat matched control sites outside that area for comparison. An evaluation of species composition and abundance should be made, including specific examination of the communities near buried cables, and at the bases of turbine towers. This program should include a component directed at assessment of impacts in the near shore region along the cable route to shore. Such monitoring should, in fact, be appropriate for all underwater cables in coastal and marine waters.

- The post-construction monitoring program for the project should include inspection and remediation of all submarine trenches and tower structures that fail to achieve background profiles within one month of construction.

IV. Conclusion

It is not an easy task to strike the appropriate balance between the very real concerns associated with the actual and potential impacts of the proposed Cape Wind Energy Project on the present environment and ambiance of Nantucket Sound and the equally real but overarching concerns about the devastating impacts of climate change to Nantucket Sound and New England. And yet it is clear that action must be taken immediately, actions that will reverse our catastrophic reliance on fossil fuels whose emissions threaten multiple species at a population scale in the region and that are responsible for cardiac and respiratory death and disease in our communities. The costs and benefits of these choices rest on models that have inherent and inevitable uncertainties.

The task of siting the quantity of utility-scale renewable energy projects in New England that are necessary to offset our own regional fossil fuel emissions to the atmosphere will not be cost-free to the environment or to the quality of our lives. On the other hand, that same quality of life will inevitably be altered at a scale and with consequences that can hardly be imagined unless we act to take all responsible actions to bring renewable wind energy to the region now.

The Corps and Cape Wind have done an impressive job in preparing environmental review documents that try to capture and quantify the expected impacts and risks of impacts that would be associated with the approval of a wind energy facility in the Cape Cod area. The scale of this effort, while impressive, is also appropriate given the importance of this public resource to so many. The reality is that wind technologies are new in many respects and our background understanding of the many coastal ecosystem processes is limited.

As the earlier comments indicate, CLF has some uncertainties and concerns with respect to the DEIS' treatment of the some of the potential interactions between the Cape Wind Energy Project and important marine and avian species. We believe these uncertainties and concerns can be reduced with relatively modest additional efforts by the project proponent and the Corps. We also believe that the immediate creation of a science advisory board will aid the Corps and improve the process of completing the Final EIS and monitoring this project.

In return, the Final EIS will be a better record on which to make the momentous and difficult decision on permitting this project that is before the federal regulators. CLF urges the Corps to take additional steps in preparing the Final EIS that we have detailed in these comments. Given the pressing nature of the need to move forward aggressively with the development of renewable energy sources, we believe that these steps can

properly be taken in all circumstances in connection with the preparation of the Final EIS and without resort to additional NEPA filings by the proponent.

CLF is committed to the timely and responsible development of significant renewable energy resources in New England. We believe that such sources can be developed in ways that minimize the impacts to the region's native flora and fauna as well as its quality of life. The Cape Wind Energy Project gives CLF and the region its first credible opportunity to struggle to achieve this outcome. We look forward to working with the Corps, Cape Wind Associates, and the science advisory board to address our concerns more fully both in the coming months.

CONSERVATION LAW FOUNDATION

November 16, 2005

The Honorable Gale A. Norton
Secretary, U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Re: Cape Wind Energy Project

Dear Secretary Norton:

The Conservation Law Foundation (CLF) writes to request that you ensure that review and licensing of the Cape Wind Energy Project in Nantucket Sound move forward expeditiously in accordance with the purpose and intent of the federal Energy Policy Act of 2005 (EPAct of 2005). Contrary to what is urged in recent correspondence from Massachusetts Governor Mitt Romney[1] and Massachusetts Attorney General Thomas Reilly,[2] any further delay in the review of the Cape Wind project would run afoul of the Energy Policy Act of 2005. Efforts to stall the review and permitting process that has long been underway would prejudice important, groundbreaking efforts to promote clean, renewable energy that not only is expected to provide significant environmental benefits to the region but also would help bridge the current tension between energy supply and demand in the northeast while promoting national energy security and the economy.

Background:

CLF is a public interest advocacy organization that works to solve the environmental problems that threaten the people, natural resources and communities of New England. Founded in 1966, CLF is a nonprofit, member-supported organization. CLF promotes clean, renewable and efficient energy production in New England and has an unparalleled record of advocacy on behalf of the region's marine environment and the scenic qualities of Cape Cod and the Islands. As part of its 40-year legacy in this region, CLF has prevented drilling for oil and gas on Georges Bank, led the legal effort to clean up Boston Harbor and other major coastal estuaries, fought to reduce damaging off-road vehicle use on the beaches and dunes of the Cape Cod National Seashore, and successfully advanced legal strategies to restore groundfish to the Gulf of Maine and southern New England waters.[3]

[1] Letter from MA Governor Mitt Romney to Secretary Gale Norton, dated November 10, 2005 re: "Cape Wind Project."
[2] Letter from MA Attorney General Thomas F. Reilly to Colonel Curtis L. Thalken, Army Corps of Engineers District Engineer and Johnnie Burton, Director of the Minerals Management Service, dated September 27, 2005.

[3] Massachusetts v. Clark, 594 F. Supp. 1373 (D. Mass. 1984); Conservation Law Foundation v. Secretary of the Interior, 790

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Since the Cape Wind Energy Project was first announced some four years ago, CLF has followed the project closely and has submitted detailed comments with respect to scoping the project, supporting the project's application for a permit to construct a data tower, and in response to the DEIS/DEIR/DRI (which was submitted in November 2004). Throughout, the project has undergone rigorous review, a review process that is still underway. Further NEPA review will necessarily entail the filing of an FEIS, an opportunity for associated public comment, and consideration by the Mineral Management Service (MMS) regarding the adequacy of that FEIS.

The proposed Cape Wind Energy Project involves the development of 130 wind turbine generators (WTGs) arranged in a grid in Nantucket Sound/Horseshoe Shoal, with electric power transmitted from the WTGs to an Electric Service Platform (Platform) and then on to the Cape Cod mainland via two buried transmission cables. As proposed, the WTG array and Platform would be located in federal waters, on the Outer Continental Shelf (OCS). Only the two transmission cables would pass through state waters and lands. The project has already received a favorable final decision from the Massachusetts Energy Facilities Siting Board with respect to its transmission cables, and a certificate of adequacy from the Massachusetts Executive Office of Environmental Affairs with respect to its DEIR/DEIS.

Notably, the Cape Wind project is the only utility-scale electric-generating project of any kind in the pipeline in Massachusetts, an area where there is now a significant tension between energy supply and demand. The compelling need for expeditious review and development of local renewable energy projects like Cape Wind is widely recognized. As a recent United States Department of Energy report concludes:

> With New England experiencing record peaks in electricity demand, rising electric costs and unhealthy air quality alerts, it is a concern that delays in the permitting of proposed projects will impede the development of renewable energy proposals that are critical to the creation of a sustainable energy future. New England's energy outlook could benefit significantly by utilizing our ocean resources in combination with current renewable energy technologies to address our growing energy needs. This in turn will help to combat global warming, polluting emissions and environmental degradation, energy price volatility and fuel supply constraints.

See "White Paper: Natural Gas in the New England Region: Implications for Offshore Wind Generation and Fuel Diversity," United States Department of Energy, Boston Regional Office (June 2004).[4]

Nonetheless, Massachusetts Governor Romney and Attorney General Reilly inappropriately seek to stall Cape Wind -- the most promising renewable energy project in Massachusetts -- from even proceeding with its already long-pending review. As detailed below, their arguments run contrary to compelling public environmental and energy interests, have no support in the law, and should be rejected.

F.2d 965 (1st Cir. 1986); Conservation Law Foundation v. Clark, 590 F. Supp. 1467 (D. Mass 1984); Conservation Law Foundation v. Metropolitan District Commission, 757 F. Supp. 121 (D. Mass. 1991); Conservation Law Foundation v. Evans, 209 F. Supp.2d 1 (D.D.C. 2001); Conservation Law Foundation v. Evans, 211 F. Supp.2d 55 (D.D.C. 2002).

[4] The U.S. Department of Energy re-emphasized the significant potential for offshore wind development in the Northeast in a September 2005 report, "A Framework for Offshore Wind Energy Development in the United States."

Review of the Cape Wind Project Should Proceed Without Delay, Concurrent With the Establishment of Guidelines for all Offshore Wind Projects -- as the EPAct Directs.

Both Governor Romney and Attorney General Reilly have asked that the review of the Cape Wind Project be suspended pending completion of a comprehensive offshore renewable energy program for the OCS. Such a suspension of the long-pending review of this project would be directly contrary to the purpose and intent of the recently enacted Energy Policy Act (EPAct) of 2005. Indeed, the Act *could* have required offshore wind energy projects that are already in the permitting process to be put entirely "on hold" pending the development of comprehensive regulations governing the licensing of alternative energy projects on the OCS, as Romney and Reilly urge. It did not.

In fact, the EPAct of 2005 contains several provisions that clearly indicate an intent to move pending offshore alternative energy projects forward without delay. Notably, the EPAct of 2005, which transferred principal responsibility for the review of the Cape Wind project from the U.S. Army Corps of Engineers to the MMS, includes a Savings Provision that protects projects having an existing offshore test facility -- like Cape Wind. This Savings Clause provides that the transfer of principal responsibility for review to Interior/MMS as directed by the Act does *not* require "the resubmittal of any document that was previously submitted..." EPAct Section 388(d). Additionally, the Act clearly exempts existing projects like Cape Wind from having to undergo a competitive bidding process in order to secure a lease, easement or right-of-way for the portions of the OCS they seek to develop. Section 388(a)(3). Further, the EPAct sets very short timelines for the Department of Interior to establish (1) rules governing equitable distribution of revenues to adjacent states (see Section 388(a)(2)(B), setting a deadline of 180 days); and (2) all other regulations necessary to carry out the review and licensing of alternative energy projects on the OCS (see Section 388(a)(8), setting a deadline of 270 days).

The purpose and intent of the EPAct of 2005 with respect to alternative energy development on the OCS thus are very clear: ***Congress directed the Department of Interior to move forward expeditiously in establishing a framework for opening up the OCS to alternative energy projects, and sought to avoid impeding pending renewable energy projects by explicitly exempting these few projects from some of the requirements that will apply to similar projects coming later in time***. The Cape Wind project, long-pending in the permitting process at the time the EPAct of 2005 was passed, is exactly one of the few projects that is intended to benefit from these exemptions. Congress clearly rejected the sort of onerous and inequitable delay that is now sought by Romney and Reilly.

Moreover, it is indeed ironic for Governor Romney to highlight his ocean management planning effort in Massachusetts in support of his argument that review and licensing of the Cape Wind project should be stalled until comprehensive guidelines are established. The truth is that the Ocean Management Task Force convened by Governor Romney in Massachusetts flatly rejected the argument that pending projects should be kept "on hold" pending development of a comprehensive new regulatory scheme. Rather, the Governor's own Task Force found that projects already in the permitting process (like Cape Wind) should not be held up pending development of a comprehensive state ocean management plan. To this end, the Task Force's Report includes the following recommendation: "Because we do not mean for this [ocean resource management] process to chill appropriate development in the state . . . we do not recommend that any moratoriums be imposed during the pendancy of this process." See "Waves of Change: The Massachusetts Ocean Management Task Force Report and Recommendations," (March 2004) at p. 31. The EPAct of 2005 likewise embraces a commitment to moving projects forward concurrent with the

development of an appropriate new regulatory scheme, and this is exactly what should happen here.

MMS is Well Equipped to Review Offshore Wind Energy Projects, like Cape Wind, Without Delay.

Governor Romney also inappropriately suggests that MMS is not well situated to evaluate offshore wind energy projects, partly because wind energy projects are supposedly "much larger in scope than oil rig projects." That assertion is simply not credible. MMS has extensive expertise leasing some 44 million acres of the Outer Continental Shelf for energy infrastructure, predominantly for oil and gas extraction. For perspective, it is worth noting that the actual physical footprint of the Cape Wind project's infrastructure is expected to require less than one acre of land on the OCS. The Project will not, as Reilly erroneously asserts, demand an exclusive license for its 24-acre footprint (i.e., the area encompassing the boundaries of the entire project) -- and thus there is no need to "square" the Project with the statutory policy against exclusive licenses over large swaths of the OCS, as Reilly suggests.

There is No Dispute That A New Set of Rules and Standards is Necessary for Alternative Energy Projects on the OCS, Yet The Development of These New Rules Must Not Delay Review of the Cape Wind Project.

Governor Romney also urges that a "separate and distinct regulatory program" be established for offshore wind projects because the existing regulations applicable to oil, gas and other mineral activities on the OCS are unsuited for wind projects. This argument is entirely superfluous, as the EPAct of 2005 directs that such a new regulatory framework expeditiously be established for alternative energy projects.

The new regulations applicable to wind energy projects on the OCS should indeed be tailored to their specific purpose; for example, these regulations should account for the substantial initial capital infrastructure costs entailed by a wind energy project, warranting a royalty system based on a sliding upward scale over time as initial capital costs are amortized. They also should take into consideration the non-exclusive nature of the licenses that are expected to be granted to offshore wind energy projects, accounting for the multiples uses (fishing, recreation, etc.) that can occur within the boundaries of these projects. To this end, we believe it would be helpful – and consistent with the purpose of Section 388 of the EPAct – for MMS to issue interim guidance regarding allocation of property rights to projects already in the permitting process.

Conclusion

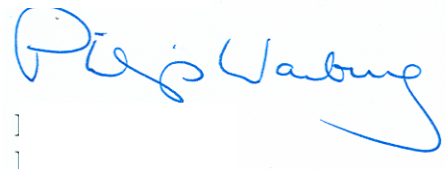
In your keynote speech during the Capital Hill conference held by the American Council on Renewable Energy last month, you recognized the compelling need to promote diverse new sources of energy in the wake of the recent tragic and disastrous Gulf hurricanes, and you specifically noted that we have entered a key window of opportunity for developing renewable energy sources. As you pointed out, benefits of promoting renewable energy development will include not only reduced environmental impact from energy consumption, but also increased national energy security and economic rewards.

As the EPAct of 2005 recognizes, we need to move forward *now* to promote renewable energy development, without delay. The Cape Wind project, as the first utility-scale offshore wind energy facility proposed in the United States, will lay the foundation for offshore wind energy development in

this country – already many years behind several European nations that have proven offshore wind to be a prudent component of a sustainable energy future.

We therefore strongly urge you to take steps to actively ensure that review of the Cape Wind project under MMS jurisdiction moves forward without any further delay.

Sincerely,



Philip Warburg
President

cc: Senator Edward Kennedy
Senator John Kerry
Representative Edward Markey
Representative Michael Capuano
Representative William Delahunt
Representative Barney Frank
Representative Stephen Lynch
Representative James McGovern
Representative Martin Meehan
Representative Richard Neal
Representative John Olver
Representative John Tierney
Governor Mitt Romney
Massachusetts Attorney General Tom Reilly
Col. Curtis L. Thalken, Army Corps of Engineers District Engineer
Johnnie Burton, Director, Minerals Management Service